Agricultural Coll

THE

AMERICAN FARMER,

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." . . . . . *Virg.*

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CHRISTMAS.

"It was the winter wild
While the Heaven-born child
All meanly wrapt in a rude manger lies;
Nature in awe to Him
Had doff'd her gaudy trim
With her great Master so to sympathise."

We may not pass over the joyous season without the greeting of "a happy Christmas" to our readers: May it be a season of gladness, as it should be, to every heart, and of joy and thankfulness, in remembrance chiefly of that great mystery, which, while it humbled the Son of God to take upon Him the nature of man, so exalted man's nature that he may become a Son of God.

In all our vaunted talk of improvement and progress there is nothing worth the name, the chief aim and end of which is not man's own elevation. The raising the weak and corrupt mortal above himself and his mortality, and renewing him after the "Divine Image and likeness." This done all else is accomplished, and this is done now, for every man who will accept the easy terms. The means are all freely offered him, and time is given him, and daily comforts and unnumbered blessings surround him, every one of which is a pledge and assurance of the tender care of the Father whose "good pleasure" it is to bring him to Himself. Who will say that for all these, and for the Hope set before us, we should not, yearly, have a season of especial rejoicing and thankfulness?

JANUARY.

"When Christmas is ended, bid feasting adieu,
Go play the good husband, thy stock to renew."

Having completed, as far as practicable, the work of the past season, the new year and its engagements will command attention. Arrange thoughtfully your plan of operations. Allot each crop to its proper ground. Determine with care the extent of each, that you may shun the error of over-cropping, on the one hand, yet, on the other, not fail to give yourself work enough. It is a nice point, and one of much importance, to adapt the work of the season to the capabilities of the farm force *and of the manager;* for some managers, by superior judgment, will have twenty five per cent more of work done with the same amount of labor. Over-cropping is very bad policy, yet it is only by "pitching" a full crop, that a full crop can be made.

WORK FOR THE MONTH.

WHEAT FIELDS.

Look to these and keep the water-furrows open. It is excess of water in the soil which usually causes winter-killing. If you have had "fly" in the Fall, graze closely with sheep and other stock, except when the ground is soft.

TOBACCO.

Continue to strip tobacco whenever it may be in order, and despatch the work, observing the cautions and suggestions given last month. Get stuff for hogshead siding and heading, so that they may be in readiness without consuming more valuable time later in the season. The timber for hoops should not be cut until you are about to use it.

TOBACCO BEDS.

Have brush and wood for burning tobacco beds, cut early; and take the first opportunity of the ground being in proper order to burn and prepare your beds for seeding. There not unfrequently occurs a spell of weather in this month when the ground will be in better condition than at any time again before April. Many planters now think that the necessity of burning is superseded by a heavy dressing of Guano. It is applied at the rate of six to eight hundred pounds to the acre, and chopped in when hoeing. Top dressings of guano are used too, with good effect, after the plants are up. If guano be not used, a good compost of well-rotted stable and other manures which have been kept free from grass seeds should be chopped in at seeding time, and should be prepared now for the purpose of top-dressing in Spring. Col. Blackistone, of St. Mary's

Co., an experienced planter, applies the freshest stable manure, using wheat straw in his racks while it is accumulating, dresses his beds when ready for sowing with this, and sows the seed on top of the manure. He has practised this method with much success for many years.

STOCK.

Have Horses, Oxen, Cows, Calves, and Sheep well looked to according to last month's hints. As ewes approach the season of lambing, give them a careful oversight, and feed them some grain, that they may be kept in good heart. Keep your breeding sows in good condition, if you expect from them thrifty broods of pigs. If your working stock of Horses, Oxen, &c., or your implements of any sort are deficient, supply them without delay.

CARTS, IMPLEMENTS, &c.

Have carts, implements, &c. of all sorts, thoroughly repaired, if they need it, and keep all well secured from weather. If you have not shedding or house room for everything, now, when the necessity is apparent, and you have the leisure, provide it.—Have the gearing all over-hauled, repaired and occasionally greased. Give the blades of scythes, the knives of your Reaper and Mower, and any thing about your other agricultural machines or implements, that is likely to suffer from rust, a thin coating of grease and beeswax, melted together. Have your ice-hooks, leather mittens, saws and axes, all ready for a speedy gathering of the ice crop.

CLOVER FIELDS.

Let no hoof touch your clover field till the proper season for grazing in Spring.

PLASTER AND GRASS SEEDS.

Have these purchased, and on hand early.

FENCE RAILS AND WOOD.

Cut early all the fencing stuff you may want, and have your stock of wood for next winter's use cut and corded.

PLANTING TREES, &c.

If you have trees to plant in Spring, dig out the holes in any suitable weather; the earth will be better for exposure to the frost—and let there be no over-haste to prevent this being well done. Set stakes near the trees planted out the past autumn, and fasten the trees to them, securely, with ropes of straw, to prevent the evils produced by the winter winds. Turn over and examine all piles of weeds and other trash, and kill the field mice you will be sure to find in some of them. Fill a bag with straw for a cushion and get down on your knees, with knife and brad awl, or other probe, and hunt up the grub at his mischievous work in your peach trees.

MANURES.

Gather up materials for manure from any source at command. Secure the hog-pen manure as suggested last month. See that the spouting on your houses throws the water well off, and that the strength of your yard manures is not washed out by it.

LIME AND ASHES.

If you have either of these manures to apply, they may be spread at any time on grass land. If the land is to be cultivated this season, wait till it is ploughed. The same may be said as to any other manures.

WORK IN THE GARDEN.

JANUARY.

But little can be done in the Garden during this month. Compost should be prepared, pea sticks and bean poles got in place, and all necessary preparations made for Spring work.

HOT BEDS AND FORCING FRAMES.

If you design using these, get them in readiness and have the heating material and compost in readiness against next month.

FLORICULTURE—January, 1859.

Prepared for the American Farmer, by W. D. Brackenridge, Florist and Pomologist, Govanstown, Balt. Co., Md.

The wet though rather mild weather, which has prevailed during the greater part of last month, has been rather unfavorable for the cultivation of soft wooded and succulent in-door plants; this could only be overcome by a moderate application of fire heat, and due caution in the giving of water and admission of air in fine weather.

As the days begin to lengthen, and the sun gets brighter, the plants that were dormant, will begin to start into growth, when water should be given them more copiously, and air admitted more freely in mild days.

January is the month in which the gardener should begin to make his arrangements for the coming Spring and Summer's ornamenting of the conservatory and flower garden, by the sowing of seeds and puting in cuttings from time to time, of such plants as are desirable for in or out door decoration, when the proper season arrives.

Prune into shape such plants as have done blooming, whose branches have become straggleing in their appearance; keep down insects, either by washing with a weak solution of Whale oil soap, or by fumigating with tobacco smoke; and see that the plants and houses are kept clean, by picking off all decayed leaves, washing the pots, and stirring and top-dressing the surface of such as require it.

Camellias—when in bloom should not be allowed to get dry at the roots; keep up a damp atmosphere, by syringing occasionally over-head, and sprinkling the path-way with water. Begin to in-arch and graft about the end of the month.

Roses lifted from the open grounds in October and November, should now be pruned and tied up to stakes, and arranged in the pit or house in which they are to bloom.

Pelargoniums—these will now begin to show signs of growth, and such as require it should be repotted,—pinch back all long weak points, and tie the lateral branches outwards to neat stakes, so as to form bushy plants; keep them in a situation close to the glass, where light and air is freely admitted.

Achimenes—when a few of these are wanted for early blooming, they should now be potted and placed in a warm part of the house.

Pansy Seed—sow some now for late blooming.

Such plants as *Schizanthus, Cinerarias, monthly Carnations, India Pinks, Nemophilas, Pansies, &c.*, that are not already in the pots in which they are to bloom, and that are likely soon to get pot-bound, should be immediately shifted into larger ones.

Azaleas—as these begin to show their flower buds, more water should be given at the roots.

Continue to put in cuttings of *Verbenas, Cupheas, Salvias, Heliotropes, Petunias, Scarlet Pelargoniums* and other soft wooded plants, these will make better plants for bedding out, than such as are struck later in the Spring.

DRAINAGE—IMPROVING THE SOIL.

To the Editors of the American Farmer:

In 1843, an ingenious citizen of England, invented a Drain Tile—a hollow tube, for taking off the surplus water. Some of the energetic farmers of the Island, immediately applied the tile to draining land, hills and valleys, with the most astonishing results.

Sir Robert Peel, the then Premier, was so much pleased with the result of the experiment, that at his instance, the Parliament, in 1846, granted a loan to the farmers of forty millions sterling ($200,000,000) to be applied to the draining of the soil.

The government was so favorably impressed, with the efficacy of draining the lands—the high lands as well as the bogs and marshes, that in 1856, parliament granted an additional loan of forty millions, for the more thorough draining of the soil.

While that government has been lending vast means to the farmer, to aid in developing the resources of the soil, private means are freely and extensively used for the same purpose.

Gov. Wright, of Indiana, says, "I know a farm of 160 acres, which was sold five years ago for $500; less than $200 was expended in draining this land, which has so improved it that the owner refused for it an offer of $3,000."

Harlaem Lake, in North Holland, covered 40,000 acres, being 33 miles in circumference. Its bottom was more than thirteen feet below the bottom of the bay, into which it emptied. It now has a population of over 2,000 It was drained by Government at a cost of $80 per acre. it is estimated that this drained lake will support a population of 70,000 persons.

The drainage of "high lands" is a matter of the highest importance to our agricultural interest. By "high land" is meant that, the surface of which is not overflowed, as distinguished from swamps, marshes and other low lands.

The Committee on draining, in their report to the State Agricultural Society of New York in 1848, assert, "that, there is not one farm out of every seventy-five in this State," but needs draining—yes, much draining to bring in into high cultivation. Nay, we venture to say that every wheat field would produce a larger and finer crop if properly drained." No farmer ever raised a good crop of grain on wet ground, or on a field where pools of water become masses of ice, in the winter. Stagnant water, above or below the surface, is always injurious to crops. No farmer ever raised good crops of grain from a wet subsoil.

Too much cold water is the most frequent cause of the failure of most of the grain crops. It is rare to have a season too wet, or too cold, or even too dry, when the land is properly drained.

Thorough drainage deepens the soil. No root, except those of aquatic plants, will grow in stagnant water. How important then to have deep soils. It is said that Indian corn, extends its roots two or more feet into the soil, and other plants penetrate the soil still farther.

Thorough drainage allows pulverization. It was Tull's theory that, by the comminution, or minute division of soil alone, without the application of manures their fertility might be permanently maintained; and he so far supported this theory as, by repeated ploughings, to produce twelve successive crops of wheat on the same land without manure. Most fields are benefitted by summer fallowing—a fact which tends to support the theory. Wet soils cannot be pulverized, and there are seasons too wet for all soils in all localities.

Thorough drainage prevents washing. Hilly land is often seriously injured by heavy rains.—If the land is saturated with water, the rain cannot descend into the earth, it must run over the surface, carrying off large portions of the soil, as well as fertilizers, which have been applied with great labour, and it may be at a great expense. If the land is thoroughly drained the surplus water passes off through the artificial channels provided by the draining process.

Thorough drainage lengthens the season for labour and vegetation. It often happens that the soil is "too wet" for ploughing in the early spring—a rainy season in the summer or fall may retard the husbandman's labours. In such seasons, the farmer is always hurried, and his agricultural operations are imperfectly performed. The soil of drained land will dry as much in two days, after a heavy rain, as it will in two weeks before draining.

Thorough drainage prevents freezing out. Mr. John Johnson of New York, in 1851, had made 16 miles of tile drains. On drained lands there was no loss of clover or wheat from freezing out, while both crops suffered severely on the same soils without draining. Thorough drainage prevents drought. First, because the soil can be more thoroughly pulverized; second, because it deepens the soil, and third, pulverization and deepening the soil increases its capacity to absorb moisture from the atmosphere. Sir H. Davy, found that 1,000 lbs. of soil, perfectly dried in an oven, gained by absorption from the atmosphere, in a single hour from 3 to 18 lbs. of water; fertile soils gaining most, poor soils least. In 1854, the drained lands in New York, suffered less than the undrained—the increased crop, in many instances being sufficient to pay the expense of draining.

Thorough draining warms the soil. Draining increases the temperature of the soil as much as 15° F. The sun has little or no warmth to impart to a wet soil. The soil is rendered cold by evaporation. If water cannot pass through the land by drainage, it must escape by evaporation. Indian corn vegetates at about 55°. The farmer makes the season late, by permitting his land to continue wet.

Thorough drainage supplies air to the roots. All plants, says Liebig, "die in soils and water destitute of oxygen." Experiments in England, show that the crop of turnips was increased 50 per cent. by tile draining, the tile drains being open at both ends, laid two feet below the surface and fifteen feet apart.

Thorough drainage promotes absorption of fertilizing substances from the air. The air is loaded with nutritious principles for the vegetable kingdom. It follows that with the water so freely absorbed by dry soils, vegetation is supplied with oxygen, with ammonia, etc. Water often contains 780 times its own bulk of ammonia. A clay soil says Johnson "often absorbs in a single night one-thirtieth of its weight of moisture—its absorbing power depending on the quantity of clay and vegetable matter, and upon the pulverization and temperature of the soil."

Thorough draining improves the quality of the crops. In a dry season the farmer often boasts of the quality of his crop. Wheat flourishes best in dry seasons. Crops of all kinds succeed best in dry land.

In England draining with tiles is the only method deemed thorough and permanent. We have not heard that our farmers have used this method of draining to any extent.

Our Legislature has done little or nothing for agriculture. Many of our farmers invest their earnings in other forms, or in stocks, instead of fertilizing and improving their farms. Our monied men are afraid to buy land; they say "it won't pay."

The prevailing system in England is to lay the tile pipes 3 to 4 feet deep, at distances apart, from 15 to 60 feet. Who is to be the pioneer in this great work in Maryland? We ought to bestir ourselves, for the idea that farming is not so profitable as other pursuits, and that lands elsewhere are more susceptible of improvement than ours, or are naturally more productive, and can be bought for smaller amounts, has taken away from our State thousands of the most spirited and enterprizing of our citizens.

Washington county, Maryland, suffers less, possibly, from water, than any county in the State. We have numerous "sink-holes"—apertures in the earths' surface, through which water passes freely into the bowels of the earth. It is rare that we are damaged, to any great extent, by the washing of heavy rains. But it often happens, that the Spring is far advanced before the ground is dry enough to plough, and the seeding of wheat is often delayed beyond the proper period by frequent and abundant rains. Ploughing land "too wet," leaves the soil unproductive for years. Besides, we have thousands of acres, which are too wet for corn, except in the dryest seasons, and are always too wet for wheat. Such soils may make medium crops of hay, or corn or oats in favorable seasons, but as a general thing, the farmer who expects to be paid for labor bestowed on such soils, will be disappointed. We, therefore, are very much interested in the subject of "drainage," and hope to see, at no distant period, its efficacy tested in our region. M.

WASHINGTON COUNTY, Nov. 12th, 1858.

BOOKS.—We call the attention of our subscribers to the list of Books we publish on the Advertising Sheet. The prices are all annexed, so that they may know the cost, in sending. We have such frequent enquiries for agricultural books, that we are induced to keep a supply for the accommodation of our friends.

To those who want a first rate Gardening book, we commend the very valuable work of McMahon, a new edition of which has been lately published.

[For the American Farmer.]

REFLECTIONS ON VEGETABLE PHYSIOLOGY.

BY YARDLEY TAYLOR, OF VA.

The perfection of ancient philosophy was held to consist in the abstraction of the mind from material objects, and thus, by leaving it free from earthly influences, was supposed to be the only way to obtain true wisdom. This, by leading men to consider the things of this world as beneath their notice and investigation, was well calculated to retard the advancement of true science and of even their earthly interests. Man is a social being, connected with the things of time and sense in such a way, that his true interests lie in giving to each the attention they deserve. In the revival of learning, after what was called "the dark ages," it was too often the practice of philosophers, to advance theories for the operations of nature, partly founded on investigation, and partly on conjecture. Indeed it could hardly be otherwise; for the laws that govern the operations of nature in many instances, are yet but imperfectly understood. Theories once considered correct are now found to be erroneous, and every true advance in science, tends to explain something hitherto conjectural.

It is not living in an enlightened age, that makes us enlightened, but by living up to enlightened principles.

It is much easier to take things on hearsay, than to acquire knowledge by investigation; hence, there are often, in this day, theories put forth by writers on scientific subjects not in accordance with facts. When it was ascertained, that matter for vegetable growth, was imbibed by the roots and carried up by the ascending sap, as well as imbibed by the leaves, and the importance of sun light to vegetation became known, the theory of the circulation of the blood in the animal economy, was considered as a type of the circulation of the sap in vegetables. Hence it was thought, that an upward flow of sap through the sap wood, was designed to carry the matter for growth to the leaves, where it was spread out to the action of sun light, and thus prepared for assimilation by the plant, then carried by a downward flow of sap between the bark and wood, and deposited for growth. But now, botanical writers, reject the theory of any downward flow of sap at all, and maintain that, considering the great amount of water thrown off by evaporation from the leaves, there is ample ground for believing, that materials enough for growth may be imbibed by the sap and by the leaves in the form of carbonic acid gas, and that the decomposition of the latter gas, will furnish the carbon of the plant. And, were they to admit the principle of electricity, as the principal agent in decomposing this gas, they would most probably, have a theory much nearer to the real facts of the case than any other yet offered to the consideration of the enquiring mind. (See, *New American Encyclopedia*, article, *Botany*.)

Many curious phenomena, may be observed by the investigator in vegetable growth, and some of these have been designated as "vegetable instinct." A late writer, in a periodical, enumerates some of these peculiarities, such as the habit of a plant growing in the direction of water; that of a convolvulus, or scarlet runner, reaching towards an upright support to sustain itself, and its coiling round only one way; and then goes on to

say, "yet, notwithstanding, if two of those plants grow near each other, and have no stake around which they can entwine, one of them will alter the direction of its spiral, and they will twine round each other." Now this is entirely a mistake, and can only have been made without examining into the nature of the case. What need is there of its altering its spiral to attain its purpose? None in the world, and it would only encounter more difficulty. Nothing is easier than for two twining plants, to twine round each other; it is often seen in gardens; but then they always twine the same way, never otherwise, unless force is used. Let a person attempt to twist two strings together in opposite directions, and he will find himself foiled in the attempt, and see the awkwardness of the undertaking. Nature never works awkwardly.

Different plants have different habits in this respect, but then the habit of each class of plants is the same witnout variation. Different varieties of convolvulus, lima and other beans, twine round from East by North and West and South, in ascending, while the hop vine and honeysuckle twine round the other way; that is from East by South to West and North. The tendrils of vines, such as grape vines, the gourd tribe, &., exhibit some curious phenomena. They are often several inches in length, and if, in reaching forth, they come in contact with any support near their extremity, they soon clasp it, by twining round it in the direction of the habit of the plant, and thus fix themselves. The remainder of each tendril between the vine and support then assumes a spiral form like a cork-screw, and in doing so, as both ends are secure, the spiral, from about the middle, is turned each way, just as if we fastened a string forming a loop with both ends tied to a stick, and then, by taking the middle of each loop and wrapping the string round the stick, each end would be wrapped in a different direction; that end nearest the vine, being strongest retains the direction of the habit of the plant, while the weaker part has to give up its natural direction, but will assume the spiral form, however, as completely as the other, but only by force.

The habit of the roots of trees, vines, &c., increasing faster in the direction of water, has been supposed to belong to that undefinable law "vegetable instinct," a law that may be called in whenever we can assign no known law for an effect produced. But is there no known law, to account for this effect?

Scientific botanists, now, all acknowledge the increase of growth to be by the addition of cellular matter, furnished the plant in the sap, and containing the materials for growth. This cellular matter will be more abundant where water could dissolve more of it from the soil; hence the roots will increase faster where water and its other proper nutriment are most plenty, and thus increase in that direction. But there is another law of matter that here comes in and plays a most beautiful part in this connection—the law of capillary attraction. The earth being a porous substance, the water ascends by capillary attraction, whenever the surface above becomes dry. Hence the earth in the vicinity of water beneath it, is more moist in a dry time than that in other places. Thus the roots extend more rapidly, because there is more materials for growth in that direction than in others. This is just what we might expect; a natural result from well known causes. Roots of trees have penetrated six or seven feet deep into the ground, and stopped up an underdrain for the conveyance of water. They have been known to descend 30 or 40 feet deep into wells to the surface of the water there. I have seen the roots of a willow tree, where it penetrated a pipe made of hydraulic cement through an opening not larger than a fine knitting needle, and after reaching the inside, there enlarging and branching until it nearly choked up the pipe and stopped the water. The power of capillary attraction, exerted by water in entering the roots of trees and plants is enormous. It is a powerful means of breaking up the rocky matters near the earth's surface, and thus forming soil.

The habit of the sunflower opening its broad disk of petals towards the morning sun, is another fact attributed to "vegetable instinct." Here again we see laws of matter, that are calculated to produce this effect. The young stalk with its head containing the embryo flower, is at first, like all young thrifty growing plants full of sap, with its carbon or woody fibre very tender. In the morning, when the dews of the night have prevented much evaporation from the leaves of the plant, its tissues are distended with sap, and thus braced upward on every side; but, after the rising of the sun, its rays strike the plant on the eastern side, and causes the evaporation of the dew from that side first, by warming the bark of the plant on that side and evaporating the juices there, before the dew is driven off from the opposite side. The difference in temperature between the sunny and the shaded sides of the plant is, early in the morning, considerable, while, in the after part of the day it is much less. Hence the tissues of the plant being relieved from distention on one side, even for a few hours, give a leaning direction that way, and, as this is repeated every day, and the increasing weight of the plant is added, a permanent position is given to the plant as it hardens in growth. The flexibility of young growing plants, is very conspicuous in the growth of the young fruit of the crooked-neck squash. The young fruit when the flower drops off, is slender and two or three inches long, and as the stem end is fixed somewhat permanent, the elongation of the fruit must be by pushing the blossom end forward; and when the space for this has no obstruction, the fruit grows straight, but if any obstruction interfers with it, and stops this movement, the young fruit bends sideways as it must grow, and often turns the blosson end of the fruit completely round towards the stem of the plant, thus forming a semi-circle.

The laws of vegetable physiology in the growth of plants, are well calculated to interest the enquiring mind. Their simplicity and adaptedness to the end proposed, give indubitable evidence of wisdom and design. It is seen that, by these operations, the otherwise inert matters of the earth and air, are converted into plants and fruits, and thus these matters are prepared to sustain animal life, which they could not do without this conversion. And then again, animals in giving off carbonic acid gas by breathing, furnish that gas to growing plants. This completes a circle of results, apparently of boundless extent, for the more vegetable growth is produced to sustain animal life, the greater quantity of carbonic acid gas is given off in supporting vegetable growth. It is

hard to say, where the limit of this increase in both kingdoms is to be seen; we know but little of what the earth may be made to produce, or the amount of animal life that may be supported from a given space. It should be the part of Scientific Agriculture, to investigate the conditions necessary to produce heavy crops, not by theories of science merely, but by careful study of soils and manures and the conditions under which heavy crops have been grown. The difference in soils, and the different application of manures to suit those differences, give ample scope for the exercise of the ablest talent.

It has been too much the practice of mankind to look up to deeds of daring and boldness, as the ennobling acts of individuals, when, if we could see the workings of their minds in moments of reflection and composure we might come to a very different conclusion. It has been said with a good deal of truth, and a truth that will be more and more acknowledged as agriculture improves, that the statue of Washington in the Capitol at Richmond, that represents him in the costume of a farmer with the sword laid aside, and the emblems of agriculture around him, presents him in a far more dignified and noble aspect than any statue of him with military appendages. It is to be hoped that this feeling will more and more abound, and thus by the improvement in agriculture and the arts of peace, a restraining influence on war will be exerted, and cause man to be the friend of man.

[*For the American Farmer.*]

TO THE FRIENDS OF AGRICULTURE.

In behalf of the Board of Trustees of the Maryland Agricultural College, I appeal to all friends of agriculture to come forward and contribute something to the establishment of this Institution. The Board deemed it wise, with the limited funds at their disposal, to commence but one wing of the contemplated building, and I am happy to say that this wing has progressed so rapidly, that it will be roofed in this month, and prepared during the winter for plastering early in the Spring.—The amount already subscribed will not more than suffice for the completion of this wing, and it will require at least fifty thousand dollars additional, to finish the whole building according to the plan adopted by the trustees.

Shall it be said that the whole Agricultural and Mechanical interest of Maryland can not or will not contribute this small sum to establish an Institution, destined, if put in full operation, to do more for agriculture, and the mechanic arts, and the rising generation, than can be attained by the appropriation of millions in any other mode? Is there a single farmer or mechanic in the State, of any intelligence, who will deny that such an institution is much needed? Is there one who does not know and feel, that agriculturists and mechanics, as classes, are inferior to other professions in education? Is there one who does not daily feel his ignorance of those laws, both written and unwritten, which if understood, would enable him to double his products, with half the labor and expense he now employs? Is there one who will deny, that unless something is done to prevent the annual deterioration of the soil, and its products, agriculture will become unprofitable? Is there one who, with all these facts before him, is content to entail upon his children the same degredation and ignorance, when so small a contribution on his part, will establish an Institution, which will enable them to overcome these difficulties, and at the same time place them on an equality with other professions. This is not designed to be solely an Agricultural College, but one where the student may obtain as perfect and thorough an education as can be had in the very best universities of the land, and, in addition, every student will be required to study those branches and perform those duties which are necessary to make him both a scientific and practical farmer. How much capital is annually invested in the purchase of various manures and fertilizers, and how much of it is productive of little or no benefit, in consequence of our ignorance of the best mode of applying it, and of the requirements of the soil to which it is applied? Would not the greater portion of this loss be saved by the teachings of such an institution? How much is annually lost by the ravages of certain insects, and could not these losses be materially lessened by studying the nature and habits of such enemies, and thereby discovering some means of preventing or diminishing those depredations? How much is annually expended by every farmer in the purchase of inferior and worthless implements and machinery, which would be saved were he acquainted with the principles of mechanics and the working of such implements and machines? It is hoped, after the very liberal and munificent contributions of two *non-residents* of Maryland to this Institution, that her *own* citizens will not suffer it to languish for the want of funds to erect the necessary buildings! Each county of the State is entitled to a Trustee, and it is therefore important that there should be a large number of subscribers in each county, that they may designate the trustee they wish to represent their interest; for the Institution is controlled and managed by trustees elected by the stockholders. There is no doubt that after the erection of the buildings, the Institution, with the endowment of the State, will be self-sustaining, and at the same time afford a very superior education at a very moderate rate. To engage a full corps of Professors for a limited number of students, would involve such an expenditure as would greatly increase the charges of education, and it is therefore very desirable that the trustees should have a sufficient amount of funds, immediately, to contract for the residue of the buildings, this winter, in order that they may be commenced early in the spring, and finished in time to have the whole Institution in operation during the next year. A great number of applications have been received from various States in the Union, for the admission of students into this Institution; which is an evidence of the great interest felt in it, and a sure guarantee of its success. In conclusion, I appeal to every one engaged in the cultivation of the soil, to assist in building up an Institution which will not only render their pursuit more profitable by combining science with practice, but will at the same time, elevate their position in society. I appeal to the whole mechanical interest, to countenance and encourage an undertaking, calculated and intended to elevate manual labor by uniting it more closely with mental, and thereby adding dignity to the profession of the mechanic and the agriculturist. I appeal to the citizens of Baltimore, of every profession, to support an Institution, destined to add greatly to the advancement and pros-

perity of the Commercial Heart of the State, by increasing the productions of the earth which form the capital upon which all her great interests are supported. It will require but a small contribution from each one interested to raise a sum sufficient to build up an Institution worthy of the cause and the State of Maryland, and I trust it will not be refused. In order to save any unnecessary delay in collecting subscriptions, I would suggest that every contributor shall remit, at the rate of five dollars a share, an amount sufficient to cover his subscription, directly to Dr. John O. Wharton, the Register, who will, by return mail, transmit a certificate of stock for the amount subscribed for.

Very respectfully, your obedient servant,
CHARLES B. CALVERT,
President of Board of Trustees.

"THE MARION" AND THE MARION "PORT" GRAPES.

We have recently received a very interesting letter from a correspondent in Ohio, and take great pleasure in imparting to our readers the valuable information it has afforded us concerning two varieties of the grape of whose excellencies this communication will cause many of them to desire a more familiar knowledge, but with whose names, we believe, most of them have, heretofore, had no acquaintance.

To the Editors of the American Farmer:

Messrs. Editors:—When I removed to this place some years since, (in the capacity of a Clergyman to serve the Presbyterian congregation,) I found two sorts of grapes cultivated by our German citizens here, one called the "*Large German*," and the other the "*Small German*." In its proper season I sent some of the grapes of the "*Large German*" to Mr. Longworth of Cincinnati. He was greatly pleased with it, and pronounced it the best table grape in Ohio, and named it the "*Marion Grape.*" He retains his good opinion still, after an acquaintance with it of ten years. The "*Small German*" I never esteemed as a valuable grape for the table; but its extreme hardiness, good bearing disposition, adaptation to all sorts of soils, and earliness, make it a most desirable grape for northern latitudes where Isabella and Catawba do not ripen. I esteem it very valuable for wine. It makes a wine in flavour and colour very similar to genuine Port; and, indeed, several good judges have mistaken it for that article. I have for several years been entirely incapacitated from ministerial duties by disease of the throat; and, as I was born and raised among the vineyards of the Ohio hills, I have turned my attention to the cultivation of the grape for the manufacture of wine, as a means of living. So valuable do I deem the "*Port Grape*" that I am preparing to set out several acres next spring. I have no doubt that in your warm sandy soil, it would be greatly improved as a table fruit, and take the first rank as a wine grape. Both it and the "*Marion*" were originated, as near as I can trace their history, by the Moravians at Bethlehem, Pennsylvania, and were brought to this vicinity by a German about thirty years ago.

The "*Marion*" may be thus described:—*Bunch*, long, compact, occasionally shouldered; *berry*, above medium size, roundish oval, black, with a bloom, very sweet, and slightly musky, free from pulp; *vine*, very strong and late grower; *leaves*, very large. On account of its thrifty and late growth the ends of the young wood are liable to be killed back, considerably, though the vine is hardy and a good bearer. The fruit ripens about a week in advance of the Isabella. There is another grape cultivated in different places, as the Marion, but it is a coarse, sour, worthless variety.

The "*Port*" grape is to be described as follows:—*Bunch*, small to medium, very compact, rarely, any, branched or shouldered: *berry*, small to medium, round, black, ripening from the 8th to 18th of September; sweet and tender; when fully ripe, pulp and inside of skin dark purple. It makes a wine of the color and flavour of genuine Port.

I shall be happy to send you a few roots or cuttings of the "*Port*" grape, if you, or any of your friends, wish to test it in your latitude. I have several very fine seedlings of my own raising, and some other new sorts not cultivated elsewhere, cuttings of which I take pleasure in distributing. I am not engaged in any Nursery business, and have no pecuniary interest in the popularity of any grape, and take pleasure in distributing a portion of my good things to any who appreciate rare and valuable fruits."

We need, hardly, say to our correspondent, how much he will gratify us by sending, as he proposes, roots or cuttings of the Port grape.—We promise to give them every opportunity of developing the good qualities mentioned in his letter, and think there may be improvement in this variety by removal to a soil where other influences prevail than those which accompany it in Ohio. We should also be much obliged to him for cuttings or roots of the "Marion," and of his seedling varieties, especially; and all will be, if sent, carefully cultivated upon the farms of each of the editors, which, situated as they are, in different counties, and in soils widely differing in quality, would afford excellent opportunities to test the merits of the various kinds mentioned by our correspondent.

NAILS IN PEACH TREES.

To the Editors of the American Farmer:—

GENTLEMEN:—During the winter of 1842-'43, I saw, I think, in the Southern Planter, "that if a nail were driven into the crown of the root of a young peach tree, it would prevent the ravages of the peach-worm." The next spring I bought a small lot of peach trees, and carefully drove the nail *as directed*, sometimes two,—crossing them. They bore one crop of sound fruit, another of *sickly* and then died from the "*ravages of the peach-worm.*

Every two or three years I have seen the same story revived, and recently in the Southern Planter, and a chemical friend, chemically accounts for the prevention.

Such has been my experience; other persons must have tried, and I hope this will induce them to give their experience. JOHN G. LANE.

Washington, Va., Dec. 17th, 1858.

We are obliged to our correspondent for his experience. The only way perhaps to stop the peach-worm is to catch and kill him.—*Eds.*

THE THOROUGH-BRED STALLION "CONSTERNATION."

In the American Farmer for last month, we gave an engraving of this fine animal, prepared expressly for this Magazine. We are enabled in our present issue to give the following additional information respecting him, which has been very politely furnished us by his owner, John P. Welsh, Esq., of Syracuse, N. Y. We are also indebted to Mr. Welsh for the information he has afforded us in relation to others of his fine blooded stock, and are much obliged to his kindness for the agreeable prospect we are enabled to hold out to our readers, through his communication below, that the pages of the Farmer may hereafter be adorned by other portraits of some of his beautiful stud.

SYRACUSE, N. Y., Dec. 14th, 1858.

To the Editors of the American Farmer.

Gentlemen:—From the eagerness with which illustrated papers are sought, and the pleasure received from seeing the likenesses of noted men and animals, I can well believe that, above the vanity of owners in giving their heads or horses to the public, there is really a good motive for which the press have, as they should have, many thanks. So far as I have animals that will be interesting to your patrons I shall be very happy to send you sketches and descriptions from time to time, as I may find opportunity.

"*Consternation*" stands about 15¾ hands in height, and weighed in October last 1200 lbs.—is a horse of very great length, particularly in the quarters, his back being rather short than long. His action is most remarkable, he being, as Gov. John A. King truly remarked at the late Fair, "the most elegantly walking horse ever beheld." In the muscular development of the arm, thigh and stifle he is a perfect *Southern quarter-horse;* so said the Kentuckians. In colour he is a rich brown, beautifully dappled, from the thigh almost to his ears, and so like Herring's "Touchstone," in colour and marks, that many have supposed him the original of that picture; the opposite hind foot however is white in "Consternation," being the near or left, and there is a small spot of white on the inside of the right pastern. He has also a small star, and a fine line in the face, barely perceptible 'till near the nose.

"*Mary Chilton,*" winner of the 1st prize in the ring for 3 year olds, is a rare beauty, was sired by "*Glencoe,*" and is the very image of her sire.—"The Spirit of the Times," gives the general opinion of her. As soon as convenient I will try to send you a sketch. "*Rifleman,*" also by *Glencoe*, now on my breeding farm in Oregon Territory, is a very elegant horse, and was winner of two 1st prizes in Kentucky. At some time I may send a sketch of him, as also of "*Gilpatrick*" g. son of "*Consternation,*" and one of the fastest horses in any country; and though not mine, his owner has promised me a photograph of him, after his next race. Thanking you kindly for the flattering notice of my horse, and wishing you abundant success in your undertakings and whatever tends to the advancement of agriculture in our country, I remain truly, your ob't servant.

JOHN P. WELSH.

BLOCK TIN WATER-PIPES.

The following communication from our esteemed subscriber, J. Crawford Neilson, Esq., will be read with interest by all who desire to avoid needless expense, in conveying water in inefficient pipes, especially on farms, or rural retreats. The high reputation of Mr. Neilson as one among the first Architects of the country, and his personal experience in the matter of which his communication is the subject, will add value to any information on this or any similar topic he may impart. We hope often to receive contributions to our pages from a correspondent so able to instruct and inform.—EDS.

No. 80 FAYETTE STREET,
Baltimore, NOV. 30, 1858.

To the Editors of the American Farmer:

Gentlemen:—Among your numerous subscribers, there are doubtless many persons now engaged in introducing water for domestic purposes, into their dwellings, or contemplating doing so.

The frequent cases of poisoning, which have been occasioned by using lead pipes to convey the usually clear water of our springs and pumps in the country, have naturally caused enquiry for some safer material. Amongst these substitutes, block tin has been highly recommended, and notwithstanding its great cost, such pipes have been used by me for my own house, and for those of other persons. I have to state that the best block tin pipe, manufactured in New York, and declared to contain 99 per cent. of pure tin, has proved entirely good for nothing,—sometimes not lasting one year. I am aware that information of this sort is of importance to gentlemen living in the country, as out of fifty-three country houses which I have built, thirty-two have been completely provided with supplies of water. I hope, therefore, that you will regard this communication as a legitimate subject of notice. With respect, yours,

J. CRAWFORD NEILSON, Architect.

RECIPE FOR CURING HAMS.

We have been politely furnished by one of our subscribers and friends, a visitor to Baltimore during the winter, but a resident of Kanhawa Co., Virginia, during the summer, with the following recipe, obtained by him from another of our subscribers, a resident of Albemarle county, Va.—It will be noticed that, in this recipe, *red* pepper is recommended and preferred, whilst in the American Farmer for last month, in the recipes then given, *black* pepper was preferred. Slaughter W. Ficklin, Esq., whose name is mentioned in the communication of our correspondent, is well known as one of the most thorough, practical, energetic and successful farmers of Albemarle county, and that he uses the recipe below, with success and approval, would be, with all who have the pleasure of his acquaintance, a sufficient guarantee of its excellence.—EDS.

[For the American Farmer.]

Messrs. Editors:—I send you the following recipe for curing hams, as a valuable addition to

those published by you in the Farmer for December:

8 lbs. Salt; 2 ounces Saltpetre; 1½ ounce Potash; 2 lbs. Brown Sugar, or ½ gallon Molasses; 1 ounce Red Pepper. These ingredients, dissolved in five gallons of water, constitute a brine which should be poured on 100 lbs. of hams, already packed and closely fitted in a water-tight cask;—the hams having been previously rubbed with salt and thoroughly aired two days before being put into the cask.

After immersion from four to six weeks (according to size) they should be hung up by the skin of the shank, and, when smoked sufficiently, covered with paper; then put in bags and hung, hock downwards. The whole process completed before the warm days of March.

The above has been practised with uniform success by the people of Albemarle county, Virginia, and is the recipe of Mr. S. W. Ficklin, of that locality. C. Q. T.

ANOTHER RECIPE FOR CURING HAMS.

Our valued friend and subscriber, J. Q. Hewlett, of Baltimore county, has kindly furnished us with the recipe by which he has for many years cured his bacon, and we cannot doubt its excellence; for we had the most "touching" proof of the agreeable consequences of its use, in having lately tasted, with an *encore*, a most delicious ham cured by this process, and which was carved at the hospitable board of him from whom we have received this recipe:

Recipe.—To 1,000 lbs. of meat, put 3 pecks fine Liverpool Salt and 4 lbs. Saltpetre. Put neither pepper, sugar nor molasses with the foregoing.—Pack in a cask, the bottom of which must be perforated with holes, to allow the drip of bloody water to pass off. Let remain three weeks, and then smoke every *morning* with good green hickory wood, using a box stove placed in a room, or elsewhere, and separated from the meat a sufficient distance, *so that the smoke may be cooled* before it comes in contact with the meat. Sew up in canvass bags the latter part of February, but by no means later, for fear the fly should appear, some mild day.

LARGE POTATOES.

Eastville, *Northampton Co. Va.*, Nov. 1858.

Messrs. Editors:—We throw down the gauntlet to all your subscribers in growing Irish potatoes. The following were grown in this neighborhood this year—all smooth, round potatoes of the Peach Bloom variety—they were sent with others to Gov. Wise, as a small specimen of what the Eastern Shore can do:

One potato raised by Thos. H. Nottingham, Jr., weighed,				2 lbs. 4 oz.
One	do	do	do weighed	2 lbs. 2 oz.
One	do	do	do	do 2 lbs.
One	do	do	do	do 1 lb. 14 oz.
One potato raised by Wm. Taylor,				do 2 lbs. 2 oz.
One	do by R. B. Nottingham			do 1 lb. 12 oz.
Four potatoes in the aggregate				do 8 lbs. 6 oz.
Five	do	do		do 9 lbs. 14 oz.
Nineteen	do	do		do 25 lbs. 14 oz.
Twenty-eight	do	do		do 32 lbs.

Beat this and we will try again.

Yours, NORTHAMPTON.

PRICES OF STOCK—PLANTATION MILLS.

We call the attention of stock growers and of machinists to the following suggestion of a correspondent at Columbus, Georgia. We should be glad if those who have stock for sale, when not disposed to publish would leave at our office a list of their prices.

"Would it not be to the interest of those having *stock* for sale, to give *prices* in their advertisements?

We often want a pair of *pigs*, *sheep* or *cattle*, but are deterred sending on for them, by the uncertainty of prices. We are willing to pay *fair* prices, but not such as *Amateurs* of the north or west are sometimes paying.

I would like to know what a pair of good Chester Co. *pigs*, 3 or 4 months old, can be had at, also a yearling Cotswold buck of good stock (Mr. H. Carroll's,) also of an Alderney Bull of a year old? I presume that an answer to the above would interest many others, who wish to improve their stock.

Our Planters also need very much, good Plantation *mills*, to grind *meal* (not *cobs*) by horse power; say from 4 to 6 bushels of *good meal*, with two or four mules. Is there such a one that is *durable, simple and reliable?*"

CIDER—TO IMPROVE AND PRESERVE.

The following communication was read at a recent meeting of the Massachusetts Horticultural Society. It was received from E. N. Horsford, Professor of Horticultural Chemistry to that Society, and was ordered to be published. The reader will please remember that it is not *sulphate*, but *sulph-i-te* of Lime that is recommended by the Professor. The first named is Gypsum or Plaster of Paris, and not the article used by the distinguished chemist in his recipe below.

Cambridge, Oct. 25, 1858.

Dear Sir:—I beg to enclose a recipe for improving cider. The object to which my efforts have been directed, was to provide a cheap, easily-managed, and perfectly safe agent for arresting fermentation at any desired stage of its progress. The fermentation of the sugar of the cider, it is well known, is due to the fermentation of an albuminous substance which the cider holds in suspension or solution. By fermentation, the sugar is first converted into alcohol and carbonic acid. If the albuminous matter be in great excess, as it uniformly is, its fermentation goes forward to convert the alcohol into acetic acid, and the cider becomes sour. If the quantity of sugar be large, a corresponding quantity of alcohol is produced.—When it is not in sufficient quantity it may be added to the cider, and more of the albuminous matter consumed to produce alcohol and carbonic acid, and of course less will remain to convert the alcohol into vinegar.

But if when the fermentation has been carried forward just far enough to impart to the cider the taste which is most preferred—when it is sparkling, still sweet, but slightly acid—if at this stage the albuminous matter be withdrawn, the cider will permanently retain its acceptable flavor.

To accomplish this withdrawal, I employ *Sul-*

phite of Lime—a salt made soluble only by acid, and of course quite inert until acid presents itself to the cider. As soon as fermentation produces acetic acid, this salt yields sulphurous acid, which destroys the ferment. This is essentially the agent employed to prevent fermentation in the wine production of France.

The substance I employ settles out at the bottom with the lees, and may be entirely separated from the cider.

The testimony of quite a number of friends, who have for the last three years followed the recipe, as well as the experiments I have myself directed, are so emphatic as to the excellence of the result, that I feel justified in submitting to the attention of the Horticultural Society this method of improving cider. E. N. HORSFORD,

Prof. of Hor. Chemistry to Mass. Hor. Society.

Recipe for Improving Cider.—Let the new cider from sour apples (sound and selected fruit is to be preferred) ferment from one week to three weeks, as the weather is warm or cool. When it has attained to lively fermentation, add to each gallon, according to its acidity, from half a pound to two pounds of white crushed sugar, and let the whole ferment until it possesses precisely the taste which it is desired should be permanent.

In this condition pour out a quart of the cider, and add for each gallon, one quarter of an ounce of sulphite of lime, known as an article of manufacture under the name of *anti-chloride of lime.*—Stir the powder and cider until intimately mixed, and return the emulsion to the fermenting liquid. Agitate briskly and thoroughly for a few moments, and then let the cider settle. The fermentation will cease at once.

When, after a few days, the cider has become clear, draw off and bottle carefully, or remove the sediment and return to the original vessel. If loosely corked, or kept in a barrel on draft, it will retain its taste as a still cider. If preserved in bottles carefully corked, which is better, it will become a sparkling cider and may be kept indefinitely long.—*Boston Cultivator.*

SULPHITE OF LIME AND CIDER.

We have given in this number of the Farmer the communication made by Professor Horsford, of Massachusetts, to the Horticultural Society of that State, on the subject of the improvement and preservation of Cider, together with his recipe in which he recommends the use of *Sulphite of Lime* for that purpose.

As Professor Horsford's letter and recipe have been the occasion of a good deal of comment and excited much interest, we have copied the following from *The* (Hartford) *Homestead.*

"The use of sulphurous acid, or its salts, (sulphites of lime, soda, potash, etc.,) to arrest fermentation is no new thing; it has lately—that is, within ten years—excited particular interest as a means of diminishing the quantity of molasses formed, in the process of making and refining sugar from the cane. The process of fermentation is one of oxidation—that is, fermenting substances attract oxygen, and by it are converted into other forms. There have been numerous patents granted in France and other countries for the use of this means of purification of the juice of the cane and beet in the process of sugar making, and as early as 1810, Proust recommended the use of sulphite of lime for assisting fermentation.

Sulphite of lime may be regarded as gypsum (sulphate of lime) which has lost a portion of its oxygen, and is very desirous of getting it back again,—and to this end will take it from anything that contains it and will give it up.

Nothing can ferment, except as it gains oxygen, or is in contact with a fermenting substance; so if sulphite of lime is present it looks after this oxygen so closely that no fermentation can take place.

The yeast or ferment which makes cider or anything of the kind *work* consists of albumenous bodies, (which are substances containing nitrogen) in a state of decomposition or decay, and this decay consists, when air is excluded, of a sort of exchange of particles of oxygen between the substances present. This the presence of the sulphite prevents, and brings the whole fermentation to a stand-still no matter how far it has progressed. It is not an easy matter to tell exactly how much to add as this must depend on the quantity of ferment in the cider unconsumed. If the cider be unfermented the result will be a sweet, flat beverage—if in brisk effervescence the result will be a liquid more or less charged with alcohol and carbonic acid. One thing more—we see no reason, as the sulphite of lime gradually disappears from the fluid, as it will, why the fermentation should not recommence, and unless great care is taken to exclude the air and to keep the cider at a low temperature it certainly will."

In addition to what we have quoted above from the Homestead, and, in order to render the recipe of Professor Horsford of as much practical utility as possible, we have translated from the French, for the benefit of those of our readers who may desire to have *sulphite of lime* made, in order to try the recipe referred to, some remarks in relation to its components and manufacture. The work from which we quote is not common in this country, and although voluminous, is very valuable and complete, and has passed through two editions—it is the treatise on applied Chemistry by Pelouse and Fremy. The passages we translate may be found on pages 180 and 274, of the second volume of the work. The authors describe the components of *sulphite of lime*, in the abbreviated language which any Chemist will readily understand, as follows:

"Sulphate of Lime CaO, SO^3

CaO	350.00	46.66
SO^3	400.00	53.34
	750.00	100.00"

"This salt is colourless; to dissolve it, requires 800 parts of cold water; an excess of sulphurous acid dissolves it; this solution makes a deposite in the form of hexagonal needles, which contain 2 equivalents of water. The sulphite of lime effloresces on exposure to the air, and is transformed into sulphate; when submitted to the action of a red heat it is decomposed into a mixture of sulphate of lime and sulphuret of calcium."

MANUFACTURE.

"Sulphite of lime is obtained in quantity by

causing a current of sulphurous acid to pass over hydrated *lime; the combination is made with a disengagement of heat. Sulphurous acid is produced by the combustion of sulphur in a furnace of continuous blast; the lime is placed in partitioned boxes, and presents a great absorbing surface to the gas. (*M. Kuhlmann.*)

This preparation of sulphite of lime is easily made in connection with the manufacture of sulphuric acid; we can, in fact, make the excess of the sulphurous acid, drawn out by the air after the saturation by the alkalis, pass into the leaden chambers."

[**Hydrated lime*, is the milk of lime, or good white-wash clear of coarse sediment.—*Eds.*]

RECENT PROGRESS OF SCIENTIFIC AGRICULTURE.

The Leibig and Laws Controversy—Prof. Volckers Investigation.

BY DR. ANDERSON, OF EDINBURG.

[Continued from our last.]

MANURES.—These observations lead us naturally to consider what has been done in extending our knowledge of manures, and the modes of applying them—a subject which, from its immediate practical bearings, is of so much importance to the farmer. Notwithstanding this, it is necessary to treat it here somewhat shortly, for it would be impossible to enlarge upon it sufficiently to give the details of all that has been done, and it is only the broad and salient points to which we can venture to refer.

During the last few years, a somewhat acrimonious controversy has raged between Liebig on the one hand, and Lawes and Gilbert on the other, on what has come to be called the "mineral theory." It is impossible to pass this controversy altogether without notice, although it is neither a pleasant nor an easy task to set the whole matter in a clear and satisfactory point of view.—When divested of the complicated questions which have been mixed up with it, the subject really lies in a small compass. It has been already observed, that the constituents of plants have been divided into two great classes, the organic, and the inorganic or mineral; and it is unnecessary to say that the food supplied to the plant must contain an adequate amount of both these classes of substances if it is to grow and arrive at maturity. The inorganic matters are derived from substances which are fixed, and can be obtained only from the soil, while, on the other hand, the organic constituents of the plant are derived from substances such as water, carbonic acid, ammonia, and nitric acid, which are either gaseous or volatile, and can consequently be obtained either from the air or the soil. The fixed matters which are absorbed by the soil, and and form its ash, are called its inorganic or mineral food, and those which form its organic portion are called its organic food. If, now, a succession of crops be cultivated on a given soil and removed from it, the effect must be that, sooner or later, all the available food contained in the soil will be removed from it, and it will no longer be capable of supporting the life of plants.—But it is manifest that, as matters actually stand in nature, it might be possible to remove from the soil the inorganic or mineral food; but the organic matters never could be exhausted, because the air forms a never-ending source from which new supplies of these substances may be obtained. A soil which ceases to produce plants, is therefore practically exhausted only as regards its mineral matters, and might be again rendered fertile by the addition of those substances only, the air being competent to afford an undiminished supply of carbonic acid, ammonia, and nitric acid. This point is so self-evident that no one will be found to doubt it, and it forms the nucleus of the mineral theory. The position which Liebig takes up is, that while the mineral and the organic—or, as he now prefers to call them, the terrestrial and atmospheric elements of the food—are equally important to the plant, we may with confidence rely upon the atmosphere alone for an adequate supply of the latter, but must take care to add the inorganic or terrestrial matters in the form of manure, in order to keep up the supply in the soil. Now, the point at issue is this: It is admitted on all hands that, in a soil containing only mineral matters, plants will grow, arrive at maturity, and produce a certain amount of crop, deriving their organic food entirely from the air; but if it be required to obtain the maximum amount of produce, whether ought we to add an additional supply of mineral matters to the soil, still leaving it to obtain the whole of its nitrogen from the air—or whether should we supplement the latter by the addition of a nitrogenous matter to the soil? The former is Liebig's view—the latter that of Lawes and Gilbert, and the majority of agricultural chemists. The following quotation from Liebig's last reply to Messrs. Lawes and Gilbert sufficiently indicates his opinion:—

"A certain mass of silver and gold circulates in the world, and the art of becoming rich consists in knowing the way to divert, from the main stream, an additional brook to one's own house. In like manner there circulates in the air and in the soil a relatively inexhaustible quantity of the food of plants; and the art of the farmer consists in knowing and using the means of rendering this food efficient and available for his crops. The more he is able to divert from the moving stream (the air) to the immovable promoter of his production (the soil of the fields), the more will the sum of his wealth and of his products increase.

"I had advised farmers not to bestow their chief attention on that element of the food of plants which the heavens constantly shower on our fields, but rather to care especially for those constituents which are not restored spontaneously, or without our assistance."

It is clear, also, that his conviction of the accuracy of this view has gained strength, as shown by the following extract from the address to farmers, which accompanied his well-known "patent manures:"—

"All manure which is to be used next winter contains a quantity of ammonia corresponding with the amount of nitrogen in the grain and crops which are to be grown.

"Experiments, in which I am at present engaged, will show whether in future the cost of this manure may not be greatly lessened by excluding the half or the whole amount of ammonia. I believe that this can be accomplished for many plants, as for clover, and all very foliaceous plants, and for peas and beans; but my trials are not so far advanced as to prove the fact with certainty."

These extracts, as well as the general tenor of his works, appear to show that Liebig, while maintaining the equal importance of all the constituents of the food of plants, believes that the farmer may safely trust to obtaining from the air a sufficient supply of ammonia to fulfil the requirements of even the most abundant crops.—The opposite view has been submitted to the test of experiment by Messrs. Lawes and Gilbert, and they believe that they have refuted his view, while Liebig finds in their experiments the most conclusive evidence of its accuracy. To attempt a formal criticism of the elaborate papers which have been published on both sides, is impossible here. I must observe, however, that it appears to me that Liebig has scarcely done justice to his opponents. He seeks to have us believe that they had attributed to him the opinion that ammonia is of no importance as a manure, a statement which no one at all acquainted with even the elements of agricultural chemistry, and certainly least of all Messrs. Lawes and Gilbert, would have ventured to make; and in his later papers he has chosen to consider ammonia as a mineral substance, an assertion which is tantamount to begging the whole question, and which is singularly at variance with his *Traitè de Chimie Organique*, in which no less than ninety-one pages are devoted to ammonia and its compounds.—After all, however, the matter does not turn upon nice distinctions of whether any substance is to to be considered organic or inorganic—for this distinction, once so marked in a chemical point of view, is rapidly disappearing—but on whether or not it is necessary to use nitrogeneous manures. No one doubts that the soil, or the plant which grows on it can obtain from the air a sufficient supply of ammonia and nitric acid to produce the amount of vegetation which a soil yields in its natural condition; but the case is undoubtedly different when the abnormal crops required by an advanced state of agriculture are to be produced; and Liebig has adopted a most unadvisable course when he recommends the farmers not to bestow their chief attention on ammonia and nitric acid. I believe that the air does not supply so much of these substances as a large crop requires, and that they must be supplemented by the manure; and in practice there is no good farmer who does not apply them largely. The experiments on the absorbent power of soils afford a reason for this necessity; for, while the important inorganic constituents of the soil are diminished only by that which the crop removes, the nitrogenous matters are subject to a two-fold loss, dependent both on the crop and that which passes off by the drainage-water. In fact, the soil loses in the drainage-water nearly twice as much nitrogen as the rain brings down to it.—The careful farmer will therefore add nitrogenous matters to his manure, but he must be cautious also not to rely upon them alone. The true practice is that which adds to the soil all the constituents of the food of plants, in quantities at least equal to those in which they are removed; and it is that in actual operation on all good farms.

The composition of farmyard manure, in regard to which our knowledge has, up to the present time, been far from satisfactory, has received a very important elucidation from the laborious investigations of Voelcker. His experiments were made upon considerable quantities of manure, treated in different manners, for the purpose of observing the changes it undergoes; and great care appears to have been exercised in all the operations, and particularly in selecting samples for analysis. We shall select two analyses, the one of fresh, the other of well-rotted dung, both being a mixture of horse, cow, and pig dung:—

	Fresh.		Rotten.	
Water,		66.17		75.43
Soluble organic matter		2.48		3.71
Containing nitrogen,	0.149		0.297	
Equal to Ammonia,	0.181		0.360	
Soluble inorganic matter—				
Silica,	0.237		0.254	
Phosphate of lime,	0.299		0.389	
Lime,	0 066		0.117	
Magnesia,	0.011		0.047	
Potash,	0.573		0.446	
Soda,	0.051		0.093	
Chloride of sodium,	0.030		0.037	
Sulphuric acid,	0.055		0.058	
Carbonic acid and loss,	0.218		0.106	
		1.54		1.47
Insoluble organic matter,		25.76		19.82
Containing nitrogen,	0.494		0.309	
Equal to ammonia,	0.599		0.375	
Insoluble inorganic matter—				
Soluble silica,	0.967		1.494	
Insoluble silica,	0.561		1.010	
Oxide of iron and alumina, With phosphates,	0.596		0.947	
Containing phosphoric acid	0.178		0.274	
Equal to home earth,	0.386		0.573	
Lime,	1.120		1.667	
Magnesia,	0.143		0 091	
Potash,	0.099		0.045	
Soda,	0.019		0.038	
Sulphuric acid,	0.061		0.063	
Carbonic acid and loss,	0.484		1.295	
		4.05		6.89
		100.00		100.00
Entire manure contains—				
Ammonia in the free state,	0.334		0.046	
Do in salts,	0.088		00.57	
Total nitrogen,	0.643		0.606	
Equal ammonia,	0.780		0.735	

The second sample here had been well-rotted for six months; and it is to be observed that the quantity of soluble matters, more especially of soluble organic matters had gradually increased during that period; and this appears to be invariably the case, provided the manure has been made and preserved with care. But if it has been exposed to the weather, it deteriorates more or less according to circumstances. It appears that the great loss to which farm-yard manure is subject, is not evaporation of ammonia into the air—for this really takes place to a very small extent—but chiefly to the rain washing out the soluble matters. The following table, giving the composition in pounds, of an experimental heap of manure at four different periods, will give some idea of the changes which occur:—

	Put up Nov. 3, 1854.	April 30, 1855.	Aug. 23	Nov. 15
W'ght of manure in lbs.	2838	2026	1994	1974
Water,	1877 9	1336.1	1505.3	1466.5
Dry matter,	960.1	689.9	488.7	507.5
Soluble organic matters.	70.38	86.51	58.83	54.04
Soluble inorg' matters	43.71	57.88	39.16	36.89
Insoluble crg' matters	731.07	389.74	243.23	214.93
Insoluble inor' matters	114.94	155.77	147.49	201.65
	960.1	689.9	488.7	507.5
Total nitrogen,	18.23	18.14	13.14	13.03
Equal to Ammonia,	22.14	22.02	15.96	15.75

It is to be observed that, during the first six months, although the weight of the manure largely diminished, the loss was almost exclusively confined to the insoluble organic matter; while soluble matters had increased, and the ammonia remained undiminished. But during the hot summer weather all the most valuable matters had undergone diminution.

Many important and elaborate analyses are contained in Dr. Voelcker's paper, which show the composition of the dung when treated under different systems. The conclusion to which they lead are these: Farmyard manure in its fresh state contains but a small quantity of ammonia, most of its nitrogen being there as insoluble nitrogenous matters. But as the decomposition advances, the ammonia increases, and a quantity of organic matters become soluble. For this reason the manure should be preserved in such a manner as to prevent the escape of the soluble portions, which are the most valuable. This can be effected by keeping it in water-tight pits, or under cover; but, in the latter case, the manure, particularly if it contain a large proportion of litter, is not sufficiently moist to admit of its ready fermentation, and water must be added in sufficient quantity to promote that change. The worst of all modes of keeping manure is to pile it in heaps in the corners of the fields, for under such circumstances it is most liable to loss; and if the manure must be carted out, it is better to spread it upon the soil at once, because when this is done, fermentation is stopped, and as there is very little free ammonia, the loss is small, and the soluble matters are uniformly washed into the soil by the rain. Dr. Voelcker is of opinion that the most advantageous mode of applying the manure would be in all cases to leave it on the surface to be washed into the soil, by which means its distribution is more uniform than if it be ploughed in. The most disadvantageous mode of making manure is to produce it by cattle in open yards, for in this way at least two-thirds of the valuable matters are lost after a year's exposure. For further details regarding these matters, we must refer to Dr. Voelcker's report.*

* Royal Agricultural Society's Journal, vol. xvii.

The subject of artificial manures is too extensive, and involves too much discussion of detail, to be entered upon here at any length; nor are there many changes of importance to be discussed. The farmer must still rely upon the staple articles, guano and super-phosphate, which have been so long in use; and Peruvian guano is probably still the cheapest manure he can employ. The expectations which have been formed of new supplies of guano have not been fulfilled, at least as regards those of the ammoniacal kind. Numerous new varieties are constantly appearing in the market, but few of them are likely to hold a place, and most are sold at rates which make them dear when compared with Peruvian. The importation of Kooria Mooria guano has now commenced; but it is scarcely likely to prove so important as it was at one time hoped, for it contains but little ammonia, and is often poor in phosphates, although some samples very rich in the latter substances have been brought home. The farmer who uses it should exercise great caution in the purchase; but if he does so, may occasionally obtain it at a moderate price, a cargo having recently been sold as low as L.3 per ton. The most remarkable change which has taken place in the use of artificial manures in Scotland is the greatly increased consumption of super-phosphate; and, like guano, it is a manure which must be purchased with great care, for I regret to say that a large quantity of that annually sold is of very inferior quality.

ANNUAL YIELD OF NITROGEN PER ACRE IN DIFFERENT CROPS.

We copy from an English Periodical the following report, containing the substance of a paper read upon the above subject before "The British Association for the Advancement of Science," at its twenty-eighth meeting, during the past Autumn. The distinguished Agricultural Chemists, Mr. J. B. Lawes and Dr. J. H. Gilbert are the authors of the Paper:

"In a paper given last year at the Dublin Meeting, on the question of the assimilation of free nitrogen by plants, and some allied points, the authors had stated, in general terms, that the amount of nitrogen yielded per acre per annum in different crops, even when unmanured, was considerably beyond that annually coming down, in the forms of ammonia and nitric acid, in the yet measured and analyzed aqueous deposits from the atmosphere. The investigations then referred to, were still in progress; and a desirable introduction to the record of the results would obviously be, to illustrate, by reference to direct experiment, that which had been before only assumed, regarding the yield of nitrogen in our different crops. To this end had been determined the annual produce of nitrogen per acre, in the case of various crops, which were respectively grown, for many years consecutively, on the same land; namely, wheat fourteen years; barley, six years; meadow hay, three years; clover, three years out of four; beans, eleven years; and turnips, eight years. In the majority of the instances referred to, the yield of nitrogen had been estimated, both for the crop grown without manure of any kind, and for that with purely mineral manure, that is, excluding any artificial supply of nitrogen. It was the object of the present communication to give a summary view of some of the facts thus brought to light. Beans and clover were shown to yield several times as much nitrogen per acre as wheat or barley. Yet the growth of the leguminous crops, carrying off so much nitrogen as they did, was still one of the best preparations for the growth of wheat; whilst fallow (an important effect of which was the accumulation within the soil of the available nitrogen of two years into one,) and adding nitrogenous manures, had each much the same effect in increasing the produce of the cereal crops. Other experimental results were adduced, which illustrated the fact, that four years of wheat, alternated with fallow, had given as much nitrogen in the eight years as light crops of wheat grown consecutively. Again, four crops of wheat, grown in alternation with beans, had given nearly the same amount of nitrogen per acre, as the four crops grown in alternation with fallow; consequently, also, much about the same as eight crops of wheat grown consecutively. In the case of the alternation with beans, therefore, the whole of the nitrogen obtained in the beans themselves was over and above that which was obtained, du-

ring the same series of years, in wheat alone,—whether it was grown consecutively, or in alternation with fallow. Interesting questions arose, therefore, as to the varying sources, or powers of accumulation, of nitrogen, in the case of crops so characteristically differing from one another as those above referred to. It had been found that the leguminous crops, which yielded in their produce such a comparatively large amount of nitrogen over a given area of land, were not specially benefitted by the direct application of the more purely nitrogenous manures. The cereal crops, on the other hand, whose acreage yield of nitrogen, under equal circumstances, was comparatively so small, were very much increased by the use of direct nitrogenous manures. But it was found that, over a series of years, only about four-tenths of the nitrogen annually supplied in manure for wheat or barley, (in the form of ammonia salts or nitrates,) were recovered in the immediate increase of the crop. Was any considerable proportion of the unrecovered amount drained away and lost? Was the supplied nitrogenous compound transformed in the soil, and nitrogen in some form evaporated? Did a portion remain in some fixed and unavailable state of combination in the soil? Was ammonia, or free nitrogen, given off during the growth of the plant? Or, how far was there an unfavorable distribution, and state of combination, within the soil, of the nitrogenous matters applied directly for the cereal crops; those, such as the leguminous crops, which assimilated so much more, gathering with greater facility, and from a different area of soil, and leaving a sufficient available nitrogenous residue within the range of collection of a succeeding cereal crop? These questions, among others, which their solution more or less involved, required further elucidation before some of the most prominent of agricultural facts could be satisfactorily explained. Comparing the amount of nitrogen yielded in the different crops, when grown without nitrogenous manure as above referred to, with the amount falling in the measured aqueous deposits, as ammonia and nitric acid, it appeared, taking the average result of the analyses of three years' rain, that the crops yielded considerably more, and some very much more, than so came down to the soil. The was same the case when several of the crops had been grown in an ordinary rotation with one another, but without manure, through two or three successive courses. Was this observed excess in the yield over the yet measured sources at all materially due merely to exhaustion of previously accumulated nitrogenous compound with the soil? Was it probably attributable chiefly to the absorption af ammonia or nitric acid, from the free nitrogen of the atmosphere? Or did plants generally, or some in particular, assimilate this free nitrogen? As already intimated, some of the points which had been alluded to were at the present time under investigation; the authors having in this the able assistance of Dr. Pugh. Others, it might be hoped, would receive elucidation in the course of time. There of course still remained the wider questions of the original source, and of the distribution and circulation of combined nitrogen in the soil, in animal and vegetable life on the earth's surface, and in the atmosphere above it."

If you cannot speak well of your neighbour, speak no evil of him.

PROCEEDINGS OF THE EXECUTIVE COMMITTEE OF MD. AGRICULTURAL SOCIETY.

BALTIMORE, Dec. 7th, 1858.

Pursuant to the provision of the Constitution of the Society, the Executive Committee of the Maryland State Agricultural Society met this day.

There were present, Messrs. Merryman, President, Smith, of Alleghany Co., Dennis, of Frederick, Mulliken, of Prince George's, Jacobs, of Harford, Worthington, of Anne Arundel Co., J. H. McHenry, of Baltimore Co., Cooke, of Baltimore City, and Col. J. W. Ware, of Virginia.

This being the first meeting of the Executive Committee for the new year, and the term of service of the Secretary and other officers having expired, on motion of Mr. Dennis, N. B. Worthington, a member of the Committee, was requested to act as Secretary pro tem.

The President read a letter from the Treasurer, Mr. Bowie, submitting a statement of his accounts for the past year. On motion of Mr. Dennis, the accounts were referred to a committee. The President appointed Messrs. Dennis and Mulliken to examine said accounts.

The President submitted a statement of disbursements made by himself, under order of the Society, which, on motion, was referred to a committee composed of Messrs. Smith and Jacobs.

Mr. Dennis, from the Committee on the Treasurer's accounts, submitted the following report:

The undersigned have examined the accounts of the Treasurer of the Agricultural Society, and with the exception of three charges, which in the opinion of the Committee cannot, under the regulations of the Society, be allowed, find them to be correct—leaving a balance in the hands of the Treasurer, of two hundred and twenty-six dollars and ninety-four cents.

G. R. DENNIS,
JAS. MULLIKEN.

Dr. Smith, from the Committee on the account of the President, made the following report:

The undersigned Committee, appointed to examine the President's account, have performed the duty assigned them, and find the vouchers, &c. all correct; and balance in his hands of four hundred and sixty-four dollars and eighty-one cents. All of which is respectfully submitted.

SAMUEL P. SMITH,
J. M. JACOBS.

The President called attention to the account presented by Wilson M. Cary, Esq., agent of the Society, for the collection of memberships, shewing balance due the Society, of sixty-two dollars and fifty cents, which upon motion of Dr. Smith, was approved of.

The President presented the account of Martin Goldsborough, Esq., shewing balance in his hands of twenty-one dollars and fifty cents due the Society, which, upon motion of Dr. Smith, was approved of.

The President submitted a statement shewing the amount of gross receipts for the Exhibition of 1858 to have been five thousand three hundred and twelve dollars and ten cents, (say $5,312.10), and the nett proceeds to be three hundred and seventy-six dollars and seventy-six cents, (say $376.76), which, with balance paid by Treasurer for 1857, of four hundred and eighty-four dollars, (say $484), makes a cash balance (attached upon judgments) of eight hundred and sixty dollars and seventy-six cents, (say $860.76)

A statement of claims against the Society was presented, shewing the aggregate amount of indebtedness to be seven thousand seven hundred and fifty-one dollars and fifty-one cents, (say $7,751.51.)

The following list of members of the Society who relinquished their premiums, was submitted, together with the tender by the late Secretary, Samuel Sands, Esq., of fifty dollars, his salary, which was ordered to be accepted:

J. S. Gittings $10; S. T. C. Brown, $4; Dr. Lawrence, $5; D. M. Matthews, $4; C. B. Calvert, $5; Henry Carroll, Jr., $28; Lloyd Lowndes, $4; Mrs. S. Loveday, $1; Maj. Cockey, $3; J. Montgomery & Bro, $3; Ball, Aultman, & Co., $10; J. H. McHenry, $210; C. Hill, $104; J. Merryman, $64; C. Ridgely, $34; O. Bowie, $24.

Mr. Dennis made a proposal from the Frederick County Agricultural Society, offering the use of their grounds, near Frederick, for the next annual Exhibition of this Society, and upon motion of Mr. McHenry, a committee, consisting of the President, Messrs. McHenry and Cooke, were appointed to take the matter into consideration, and correspond with the officers of the Frederick County Society, or any others, with regard to the location of the next exhibition of this Society, if in their opinion necessary; and the same Committee were instructed to visit the Trustees of the Society's Show Grounds, and President of the Charles street Avenue Company, and ascertain what arrangement can be made, if any, to the advantage of this Society, by the abandonment of the grounds; and the same Committee were further instructed to take the necessary legal steps on behalf of the Society, in the matter of the attachments served upon the President and late officers of the Society.

Upon motion of Col. Ware, the Executive Committee adjourned to meet at the Society's rooms in this city, on Tuesday, 11th of January next, at 10 o'clock, A. M. N. B. WORTHINGTON,
Secretary pro tem.

☞ Delegates appointed by the President of the Maryland State Agricultural Society, to represent that Society, at the annual meeting of the United States Agricultural Society, to be held in the city of Washington, on Wednesday 12th January, 1859:

Charles B. Calvert, James T. Earle, Ramsay McHenry, Samuel Sands, John H. Sothoron, John S. Sellman, Charles Ridgely of Hampton, Robert Dick, Richard Cooke Tilghman, Teagle Townshend, Oden Bowie, J. M. Jacobs, John C. Brune, Charles Carroll, Ed. Lloyd, Jr., L. T. Brien, Dr. S. P. Smith, James Tilghman, George R. Dennis, G. M. Eldridge, S. T. C. Brown, John W. Jenkins, R. T. Goldsborough, Edward Wilkens, W. Hardcastle, T. H. Gary, Allen Dodge, J. W. Ware, Thomas R. Joynes, Gen. Cadwallader, Bryan Jackson, William Crichton, Frank Cooke, J. N. Goldsborough, J. Mullikin, N. B. Worthington, J. Howard McHenry.

The California Farmer—Edited by Colonel Warren and published weekly at San Francisco. This excellent paper now reaches us with great regularity, and its arrival from the "Golden Land" is always anticipated with interest and pleasure. It is no whit behind any of its contemporaries of the same class, on this side the Continent, either in typography, illustrations, or valuable subject matter.

HINTS ABOUT BREEDING.

There can be no doubt but that the attention of farmers and others who have a taste for fine animals, is a good deal awakened to the importance of breeding from the best kinds of animals.—This feeling is now calling forth the careful attention of farmers to the blood of the animals from which they breed, as well as to the form and qualities which belong to the race from which they have been derived. While a great improvement may be reasonably expected from these causes, there is an error which is not unfrequently committed by those commencing to breed fine stock, which ought to be amended.

Many persons think, if they have a fine colt, or calf of superior blood, that the more food it gets, the better it will be. But this is a mistake. The young animal requires the milk only of its dam, if that is an average quantity and quality. It is true they will, as they increase in size, take more milk, if offered them, and by such means their growth will be very rapid, and they will take on a great deal of fat. A colt, or calf, pampered in this way, has an unnatural growth. They are over-fed, and the muscles are not as well developed as in animals less stimulated with rich food. Nature is the great teacher, and those who neglect her counsels will be very sure to find out their mistake. A young colt, a calf, a lamb, wants nothing for some months after birth but the milk of the dam and fresh pasturage, with free scope to leap and race at their pleasure, thus stretching to the utmost every muscle, gaining strength, healthy development and symmetry, with every effort. Over-feeding is not probably so common as under-feeding. But it is an error into which good farmers and good breeders sometimes fall. They have a fine young animal, and they want to make it very extra, and high feed will often deceive pretty good judges. Many a common calf has taken the premium, not because it was the best, but because it was the biggest and fattest. By careful enquiry you would perhaps find that it had taken the milk of two or more cows, for a considerable part of the season.

The continuance of high feed for a few generations, with little exercise, will destroy the good qualities of a fine race of animals. They lose their symmetry of form, which depends on the proper action of the muscles, and become barren and worthless.—*L. in Am. Stock Journal.*

Reports of "The Ohio State Board of Agriculture."—John H. Klippart, Esq., Cor. Sec. of the Board, will please accept our most cordial thanks for the very handsome and liberal donation of eight volumes of the Reports, to the Agricultural Library of the "Farmer." The Report for 1857 we have examined with great interest, and have marked many of its pages for future reference and quotation in our Magazine. The whole volume is, indeed, quite a model Report, and very creditable to the State Board, and especially to the Corresponding Secretary. The most valuable, as well as the largest portion of the Report, is the Essay by Mr. Klippart, on the Origin, Growth, Diseases, Varieties, &c., of the Wheat Plant. The entire Report forms a stout, large-sized octavo volume, of some 850 pages, handsomely printed, and illustrated by more than thirty-three engravings. When will Maryland have her State Board of Agriculture?

AMERICAN FARMER.

Baltimore, January 1, 1859.

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Publisher of the "American Farmer,"
CARROLL HALL, S. E. cor. of Baltimore sts, Baltimore.

☞N. B.—We beg the especial attention of our subscribers to their bills, now due. They are not so large as to require *much* attention, but they are very many and will do us great service. There is not one of our friends, we think, who would not give so much for charity; we ask it only in the name of *Justice*.

THE MARYLAND STATE AGRICULTURAL SOCIETY.

By reference to the proceedings of the Executive Committee of the Maryland State Agricultural Society, in another part of this paper, will be seen the condition of the Society. There appears to be a balance of $860 76 in cash on hand, $484 of which was paid by the Treasurer, as balance collected of proceeds of Exhibition of 1857, leaving $376.76, the net proceeds of exhibition of 1858. The receipts of 1858 were $5,310.10, against $12,059.10, for 1857 and $9,756,20, for 1856. The small receipts of the last exhibition as compared with previous years, can only be accounted for by the want of interest on the part of the people of the State, and of the citizens of Baltimore, in particular.

The Executive Committee faithfully performed their duty, hoping to be able to divide among the creditors of the Society at this time at least three-fourths of their claims, which would have been done, had the receipts of the exhibition, been equal to that of 1856. In this they have been disappointed, the causes operating being entirely beyond their control.

MEETING OF THE EXECUTIVE COMMITTEE OF THE STATE AGRICULTURAL SOCIETY.

We call the particular attention of the members of the Executive Committee of the State Agricultural Society to the adjourned meeting of the Board, to be held on Tuesday the 11th, inst., at 10 o'clock. Business of importance will require attention and a punctual attendance is requested. The Vice Presidents and Curators of the Society will bear in mind, that by a recent change of the Constitution they are all members of the Executive Committee.

PATENT OFFICE AGRICULTURAL REPORT.

We have received from a friend at Washington, a copy of the Agricultural portion of the Patent Office Report for 1857. Though the want of liberality in Congress has prevented much that might and should otherwise have been included in this volume, both in scientific matter and in valuable illustrations, yet this Report contains the results of a vast deal of labor, mental and physical, and of many observations and experiments, carefully and patiently conducted. Few men, we believe, could be found, having the same knowledge of the various subjects of which he treats, the same ability to impart it, coupled with an equal amount of indefatigable energy, industry, and perseverance amid all sorts of embarrassments and petty annoyances, as Mr. D. J. Browne. To his invaluable assistance, more than to any other source is the Commissioner of Patents indebted for the preparation of these Reports upon the Agricultural economy of the country, which are sought for, always, with so much avidity, and read with so much pleasure and profit, by the farmers of the United States. Long may the Patent Office retain the services of this gentleman, so estimable in every relation of life, and so ardent a devotee in the cause of Progress and of Science.

The volume opens with an interesting article upon the "Progress and Public Encouragement of Agriculture in Russia, Prussia and the United States." Under the division of the Report devoted to Animals, is a well written article upon the Adaptation of the Mountain Regions of the South to Sheep Husbandry, by George C. Patterson, of Rogersville, Hawkins county, Tennessee. This is followed by articles upon Asiatic Goats, upon the Llama and Alpaca. Next succeeds an article upon the Quadrupeds of Illinois Injurious and Beneficial to the Farmer, by Robert Kennicott, of West Northfield, followed by one upon the Honey Bee, and by others, the most interesting of which are those upon Salt, upon the Bread Crops, Tea Culture, Sorghum Cane, Hedge Plants, Hop Culture, and Textile and Forage crops. But the most elaborate and scientific article, as well as that which is the best written, and will, perhaps, be more highly prized than any in the book, is the very admirable essay upon "*Meteorology in its Connection with Agriculture*," by Prof. Joseph Henry, Secretary of the Smithsonian Institution.—We hope that Congress will yet order the plates, necessary to illustrate as he wishes, "the distribution of rain, the phenomena of storms, and other matter pertaining to the climate of the United States.."

Catalogues of Agricultural and Horticultural Implements and Machines, we have received from Messrs. John Garnett & Co., of St. Louis, Missouri, and from G. W. Mayher, of 197 Water street, N. Y.

SHALL WE GROW MORE TOBACCO?

There is a great disposition at this time, we find, in sections where tobacco growing has been heretofore unknown, and among persons entirely unacquainted with its culture and management, to undertake the cultivation of the crop.

Our advice has been sought, as to the policy of doing so, and a few words on the subject may not be useless to a number of our readers.

In the first place, let us say, then, that the profits of tobacco culture have been very much exaggerated by the publication of prices obtained, within the two years past, for very extra small parcels. These reported prices are no indication at all of the general market. Nevertheless, it is true that the prices of 1857 were very remunerating, and the prices of the past year, though much smaller, were very fair. In consequence of these prices, the culture has already been very much increased, without a corresponding increase in consumption, and the stimulus given to the production of the crop all over the country, it is easy to foresee, will result, in a few years, in very low prices.

It is very bad policy generally, an account of the failure for a year or two of any staple, or temporary depression of price, to change one's plans. The best rule is, to hold on steadily and diligently to whatever crops you have prudently determined upon, and wait patiently for a favorable change. It is no argument that the crop of wheat will fail next year, because it failed last year, and the very inclination so common now, to abandon wheat or corn, in a measure and adopt Tobacco, is tending at once to raise the price of the former, and depress the latter. So that the new tobacco planter, by the time he gets his houses built, and himself and his farm hands sufficiently familiar with a crop which requires much experience to manage to advantage, may find the price again at a very low figure.

Tobacco culture while it is not so directly exhausting to the land as is generally represented, so engrosses the labor of the farm as to interfere seriously with improvement. We recommend its culture, therefore, only to those, whose farms, fences, &c., may be in good condition, and who may have labor at command to which they cannot give otherwise profitable employment.

In connection with our own remarks we give the following from an intelligent correspondent, in one of the Southern counties of Maryland:

"I do not think it judicious to advise any one to enter into its cultivation, except in a small way, as from my present information, there are so many going at it another year, if there should be a large crop, the prices will be likely to decline to something like they were in '46 and '47, when I sold tobacco for $2.50 per hundred (*average.*) I do not consider it a paying crop at a less average than $6, and that has been about the average price obtained this year, in our neighborhood. I think I shall continue to make small crops of it hereafter, but it is only because of the fear of failure in wheat, in which case tobacco may "help the *lame dog* over the stile." I started into an exclusive grain culture, four years ago, with the conviction that tobacco had well nigh ruined our section, and would ultimately do it, if persevered in. This conviction is still impressed upon me, if its cultivation is continued under the old *three* field system, where the same piece of land in its rotation is put into tobacco with all the manure that can be raked and scraped from all sources of the farm, without giving a particle to the poor corn knolls and barren flats."

SHALL WE GET SEED WHEAT NORTH OR SOUTH OF US?

Two years ago we suggested in the *Farmer* that while the almost universal practice with our wheat growers was to go North for a change of seed wheat, we thought it not unlikely that the contrary course might be found best as regards the very desirable property of early ripening. A correspondent of the *Country Gentleman*, in Kentucky, says: "In August 1856, I determined to make an effort to ripen my wheat crop in time to escape *rust*, the most fatal disease to our wheat in this section of Kentucky. My location is in the extreme northern part of the State, in latitude 38½° North. The soil, strong calcareous uplands, dry and very productive. I sent to Nashville, Tennessee, for three bushels of "early May wheat" for the experiment, and sowed it on hemp stubble Sept. 15th. Nashville is in 36½° North, 2½° South of my location. The experiment was a decided success; my wheat ripening June 14th—just two weeks in advance of our acclimated varieties, and free from all disease—straw bright as gold, and surrounded by rust of the worst character in all the later ripening kinds, and this early ripening continues to the present time." "All efforts to ripen our wheat early, by sending *North* for seed, have signally failed in actual experiment."

It may be said as to this experiment that the "early May" is an early variety any where.—Nevertheless the principle is a correct one—the *habit* of ripening early established in a more southern latitude will not be changed immediately on being removed farther North. The only difficulty in making the change is, that we may fall upon a variety which is perfectly hardy in a warmer climate but not capable of withstanding the frost of a higher latitude. It has been observed that wheat brought from the North, takes a quicker and more vigorous start in Spring, after a hard winter. Nevertheless, we think that by taking due care in getting a hardy sort, there will be decided advantage as to early ripening by getting seed wheat South of us.

On the contrary as to corn, the same writer says, one of his neighbors sent to New Jersey, and purchased the eight-rowed yellow; another sent to Nashville and got the Southern gourd

seed. "These Northern and Southern varieties were cultivated side by side the present year.—The Northern proved a very early and the Southern a late ripener," and for the same reason as with the wheat. The Northern corn from necessity ripens early, and has been cultivated constantly with that necessity in view. On being removed South it keeps its constitutional habit for a while, but loses it gradually in the absence of the same necessity, and becomes later and larger in proportion. The Southern variety keeps its habit of growing lazily along through a protracted summer, and in a higher latitude is very likely to be caught by frost.

THE COST OF HIGH FARMING.

In agriculture, as in other pursuits, the rule is to do things well, and to use freely and liberally, yet carefully and judiciously, all the means necessary for that purpose. The ground should be deeply and thoroughly worked, effectually drained, and abundantly manured, and all the necessary means and appliances of seeds, implements, teams and labour amply furnished, to do the work well and in the right time. This is the sort of farming that in our opinion "pays" best, and that which pays worst is that which least resembles it.

In urging our views upon our readers we have several times taken the liberty of using the name of a friend whose practice we occasionally have the opportunity of observing, because his practice happens to illustrate our opinions, and his success confirms our judgment. The farming of Mr. Hewlett, has been in consequence a topic of much discussion and interest, and of some difference of opinion. Many we have reason to believe have been encouraged to use their means more liberally in the permanent improvement of their estates; others have thought that such an example is not adapted to ordinary use, because it involves the command of means which does not fall to the lot of cultivators generally; while a few comparatively, without looking into the matter at all as we think, doubt whether such farming can, under any circumstances, be made profitable.—One gentleman recently said to us very confidently: "Oh, I know all about Mr. Hewlett's farming; all the wheat he makes costs him four dollars a bushel." Taken literally this was an absurd exaggeration, but it was designed of course only to express strongly the opinion, that this method of cultivation is unprofitable.

Now beyond all question, the first thing to be determined as to any system or mode of farming is, *does it pay?* If it cannot give a satisfactory answer to this little question it falls to the ground of its own weight. No system is worth any thing which pays nothing, that is the best which pays most; not in one or two, but in a number of years; not in crops sold only, but in annual sales and solid improvement combined. One man may crop heavily, and show for a time larger annual sales than his neighbour, but the latter may show such increased and permanent value added to his property as will leave little doubt as to which has farmed most prudently.

It is no argument against any system of farm management that there are comparatively few men capable of pursuing it advantageously, or that most men cannot command the means to adopt it. These are circumstances which make it neither better nor worse. The system itself is entirely independent of circumstances. Is it the best system when properly pursued. Let us determine this, and when determined, we do not advise that every one should adopt it at once, and without reference to his own particular circumstances, but keeping it clearly in mind, adapt himself and his circumstances to it as much and as fast as he safely can.

When Mr. Hewlett commenced improving his land, it was we suppose of such quality and in such condition as could be bought now in Maryland for $20 per acre, in parts of Virginia for $10. It would average we suppose four barrels per acre of corn, and five bushels of wheat. Supposing it to be cultivated on Mr. Hewlett's rotation of six fields of say 20 acres, each, the farm would yield a crop of 80 barrels of corn, 100 bushels of wheat, and how much hay any experienced farmer may answer for himself. We would not at any rate undertake to harvest the crop from such land for all it would yield. The result of this cultivation is that the land is worth now *as farming land*, without reference to its location, certainly one hundred dollars per acre. An average crop of corn is 12 bbs. per acre, or 240 from a field of 20 acres; 35 bushels of wheat or 700 from 20 acres, and a ton and a half per acre of hay—the crop of this season on hand for sale from 70 acres, being about a hundred tons.

We say now, as we have said before, that Mr. Hewlett spends for the pleasure he takes in improvement, much beyond what is necessary for the increase of his crops. We mention one thing as an example—a most admirable Macadamized farm road. One which, by the way, is made at little cost, and which every farmer who has stone, should make, as a useful way of disposing of the stone he gathers from his fields. The stone is deposited in heaps along the road as gathered, and in weather too soft for working the land, are broken and put in place. No one doubts the intrinsic value of such an improvement, which once well done is done for a life-time. Yet it is not a thing which many farmers would consider as necessary; and the increased product of crop is not fairly chargeable with its cost. And so of many

other things which a man of means, who wishes to have everything about him in proper order, would like to do.

But the question now to be determined, is not how much money this or that man may choose to spend, but how much has been spent, or how much any ordinary farmer may or must spend, to produce like results in crops, and in the improvement of his land. We give then what Mr. Hewlett considers sufficient for a six years' rotation, as practised by himself, and compare them with his actual average results during that period of time.

Fifty bushels of Lime per acre, cost,	$5 00	
Twenty bushels of Bone Dust, .	13 00	
Three hundred pounds of Guano,	7 50	
Two bushels of Seed Peas, . .	3 00	
Grass Seeds, ...	5 00	
Total, ...	$33 50	
As an offset to this, we have increase in corn crop, 8 bbls. per acre, . .		$24 00
Increase in wheat crop, 30 bus. per acre,		45 00
Increase of Hay crop over its value as pasturage before, one ton per acre, or three tons in three years, . .		45 00
Total increase of crops in 6 yrs.,		$114 00
Total cost per acre per annum, .		33 50
Increase per acre of crops over cost during six years, ...		$80 50
Average annual increase per acre (nett),		$13 41

This exhibits the result in increased crops over the cost for manures. The increased cost of cultivation in labour, implements, &c., is still to be taken into account. Make this as large as we may, and it will still be largely overbalanced by the increased value of the land which we estimate at $80 per acre.

In conclusion we say again by way of caution that it is not manures alone, or manures and labour combined that will produce such results. Any amount of money may be and often is, fooled away by ambitious improvers, for want of skill and judgment in doing their work. What we mean to teach is, that the farmer who by whatever means is trained and educated for his work and understands his business as he should, need have little fear of spending too much money on his farming. We mean to say that high farming is the right sort of farming—that it is that which pays best, and that if our farmers are not capable of it they should be; and should at any rate see to it that their sons serve such an apprenticeship, both in the study of its principles and their application in practice as will fit them to follow properly the business they profess.

Never give counsel where it is not asked of you, especially to those who are not capable of appreciating it.

GIVING PROPER CREDITS.

The "Country Gentleman" is somewhat exercised in several of its late issues in the matter of "credit." It complains of sundry little appropriations from his columns by contemporaries without the credits in such cases due. Perhaps the "Country Gentleman," will allow us to remind him that a whole column was transferred *verbatim et literatim* from the editorial department of the Nov. No. of the *American Farmer* to his own, except the dropping of an inappropriate paragraph, without the slightest recognition of the source whence it came. We expected an acknowledgement of the oversight, but find that this "Gentleman," like many others of our acquaintance, is too busily engaged with the motes in his neighbours' eyes to trouble himself with a beam in his own.

We very cheerfully however make due allowance for this and other evil accidents which befal us in the same way. In all cases we put the best allowable construction upon them. They are not often we think the result of design. Yet there are appropriations of this nature so pains taking, so careful of concealment, and so deliberate, that there is no getting over the evil intent. We allude to the practice of taking the writings of another and, to give it the appearance of originality, re-forming the sentences, changing in some measure the words, spoiling the sense, and hoping to get the credit of a rich repast in a wretched re-hash of scraps. We found some three or four articles from our columns, not long since, thus appropriated in the agricultural department of the N. Y. Tribune. More recently the same Journal has been publishing a series of ambitious essays on the Breeds of Cattle, Sheep, &c. No. VI. headed "Spanish Merinoes," appears in the issue of Dec. 4, and a few extracts will show the reader, to how much credit they are entitled on the score of originality.

"From an early period if not the earliest in the recorded history of Spain, the writers on Agriculture, describe various breeds of sheep as existing in Spain. They were of three colours, Black, Red and Tawny."—*Tribune.*

Mr. Youatt, says in his chapter on the Spanish Merino, page 41, Skinner's edition: "The early writers on Agriculture and the Veterinary art, describe various breeds of sheep, as existing in Spain; they were of different colors—Black, and Red and Tawny."

Mr. Youatt, goes on: "The Black sheep yielded a fine fleece—the finest of that color which was then known; but the Red fleece of Bætica, Granada and Andalusia, was of still superior quality and "had no fellow."

The *original* article in the *Tribune* says: "The Black wool was the finest then known of that color, but the Red fleeced sheep of Granada and Andalusia, the ancient Bætica, were still of superior quality and had "no fellows."

Mr. Youatt: "These sheep were probably imported from Italy. They were the Tarentine breed, already described, and which had gradually spread from the coast of Syria, and the Black Sea and had now reached the Western extremity of Europe."

Mr. Greely: "It is supposed that these sheep were of the famous Tarentine breed of Italy, which had gradually spread from Syria and the coasts of the Black Sea, to the Western extremity of Europe."

Mr. Youatt: "Columella, a colonist from Italy, and uncle to the writer of an excellent work on agriculture, resided in Bætica, in the reign of the Emperor Claudius. He introduced more of the Tarentine Sheep into Spain, and he otherwise improved on the native breeds; for struck with the beauty of some African Rams, which were brought to Rome to be exhibited at the public games, he purchased them, and conveyed them to his farm in Spain."

Mr. Greely: "Columella, an Italian colonist, uncle to the agricultural writer of that name, in the reign of the Emperor Claudius, made further improvements on the native sheep of Spain by the importation of more sheep of Tarentine, and of some African Rams which he bought at Rome, where brought thither for exhibition at the public Games."

Mr. Youatt: "The original Spanish sheep were, according to Pliny, Solinus, and Columella, some black-fleeced; some produced red or Erythrean wool; and some, as those about Cordova, had a tawny fleece."

Mr. Greely: "The original sheep of Spain, however, before any improvement had taken place, according to the Roman writers, were black-faced, while some had a red or Erythrean tinge, and those in the country of Cordova were tawny."

There is one point of difference in these two paragraphs which may be thought material, and exhibits a degree of independence in the Tribune writer, that was not to be looked for. Mr. Youatt says of the Spanish sheep, that some of them were "black-fleeced." Mr. Greely says they were "black-*faced*." Which of these high authorties are right on this point, we leave the reader to determine. We think it likely the Editor of the *Tribune* has been betrayed by some *confusion of ideas* into a mistake.

With this and a few other small exceptions, the original text is closely followed, through a column and a-half of the *Tribune;* the writer occasionally relieving himself of the trouble of reforming a sentence, and at the same time helping the illusion, by a literal quotation, with the usual marks, giving Mr. Youatt credit.

If Mr. Youatt's work contains a better article on Spanish Sheep than the Editor of the *Tribune* can get up, it is no discredit to that journal to acknowledge it.

Excess of ceremony shows want of breeding.—That civility is best which excludes all superfluous formality.

NOTES OF TRAVEL IN "THE OLD DOMINION."

[Continued from our last No.]

Richmond—Hollywood Cemetery—Nursery of Joseph Sinton & Sons—Mechanics' Institute—Fair of the Virginia State Agricultural Society, Petersburg—Fair of the Seaboard Agricultural Society of Virginia and North Carolina—Fête at Johnsen's Assembly Rooms—Visit to the Farms of E. H. Herbert and of Dr. J. N. McAlpine, about six miles from Norfolk—Portsmouth.

Having described, as fully as our space would allow, the late Fair of the United States Agricultural Society and such matters connected therewith as we deemed note-worthy, and given an account of the fine Swine of Peyton Johnston, Esq., we will now continue our description of what we saw in our travels in "The Old Dominion."

The situation of Richmond is beautiful and picturesque, and for a great manufacturing mart, surpassed by no city or town, certainly on the seaboard of the Atlantic. The ever-winding James goes sweeping and tumbling over rocks, amid islands and islets, in a grand curve and with a width of three quarters of a mile past the many-hilled city; and, after supplying an almost inexhaustible water power to the giant mills upon its banks, and shooting its impetuous current under the many bridges that bestride it, sinks just below the town into a stream as crooked and as slothful as was the character of him whose name it bears. The James River (& Kanhawa?) Canal brings down upon its bosom the rich agricultural and mineral tribute of the upper portion of the valley of that river; whose waters are thus used to bring the wheat to the door of the most extensive flour mills in the world, and to grind it afterwards into flour not excelled, for general commercial purposes, by any in the Union. The "Gallego" Flour is widely celebrated; and no stranger should leave Richmond without visiting the mammoth mills of Messrs. Haxall and Crenshaw, and the mills of Messrs. Warrick & Barksdale. We visited these establishments in company with Mr. Hoyt, one of the Editors of that capital magazine "The Wisconsin Farmer," and, like him, were struck with astonishment at their vast proportions and working capacities.

The Tobacco Factories are dotted, amid the other buildings, along the sides of the hills sloping toward the river, and are objects of curiosity to all who take an interest in that great staple of Maryland and Virginia. We passed through one of them and were shown every process with alacrity, by one of the gentlemanly proprietors; though into another, belonging to a Mr. Grant, we were denied admission, and the reason given for the refusal, by the foreman, was, that the processes of manufacture in that establishment were

secret, and could not be seen by strangers without a permit from the proprietor.

At night, when approaching Richmond from the South, the effect of the multitude of windows of these numerous tobacco factories all lighted up by gas is a most beautiful and brilliant spectacle.

In addition to immense water power, Richmond enjoys a manufacturing advantage, unattainable by any of her sister cities on the Atlantic border, in a cheap and abundant supply of bituminous coal within a distance of twelve miles. It is indeed wonderful, that with all these great facilities for manufacturing, and with the best iron in Union, for casting cannon within a very short distance, Government has not, long since, established a great National Foundery at this point. The inducements to such an undertaking are, now, stronger than ever since Richmond has formed direct connections by Railroads with all parts of Virginia, and with the South-West, and now only awaits the competition of that link, without which her system of Railroads can never be perfect—the short road across to the noble harbour on York River—to give her those maritime facilities of which the tortuous and difficult navigation of James River still deprives her.

When we visited the public grounds around the State House, workmen were engaged in grading the slope, towards the river, of the hill on which it stands, and new walks had been laid out to approach it, from the street below it, on that side. These grounds seemed very poorly kept; the trees planted without taste or regard to any rule of landscape gardening, and selected with singular want of knowledge and judgment. The walks were laid with rough, coarse gravel, and wanted rolling, badly. The Capitol looks well enough, at a distance, but that is all that lends it any enchantment; for it is, in reality, a most notable failure of an attempt to accomplish an absurdity—the conversion of the Grecian Temple to the varied purposes of a Legislative Chamber, and the other offices of modern government, and yet to retain the distinctive features of one of those grand old fanes of Heathendom. The Virginia Capitol is, in truth, a miserably shabby edifice of brick, plastered, with a portico on one side with wooden pillars; the walls badly cracked and the whole affair a dilapidated specimen of a style of building that ought to be called "*The would be if we could.*" But then the Equestrian Statue!—the Statue!—Yes, *that* is enough to make up for all other deficiencies within the ample grounds that surround it and the Capitol, beside which it stands; and almost enough to make one forget the ridiculous spectacle of that unfortunate solitary representative of Virginia's military nonsense—the melancholy individual in uniform faced with red, who, musket on shoulder, paces solemnly back and forth before the front of the old tumble-down Heaven of county politicians. The rider and the horse—the noblest of men and the noblest of animals—they have indeed found, in the genius of Crawford, a power capable to do justice to both. We have no space for the details of criticism, nor could we find room for aught but praise; though, if we venture to point out one slight mistake we may be, and perhaps justly, accused of hypercriticism. The wrist of the right arm seems not sufficiently exposed;—the sleeve of the military coat comes too far forward upon the hand to be correct, when the arm is extended, and the hand pointing, with all the energy and tenseness of muscle with which Washington extended his, upon the occasion on which the statue is supposed to represent him.

But, though with some few exceptions, the private residences, although large and spacious, are greatly wanting in architectural beauty, and the stores and shops still more deficient in that particular, yet Richmond is a beautiful city—beautiful from its varied undulating surface, the ample space allotted around and in front of many of the solid looking, comfortable dwellings,—beautiful from the numerous trees of the Magnolia Grandiflora and of the Mimosa,—but beautiful, above all, from the bewildering beauty of the lovely daughters of Virginia, whose very fair complexions show their pure English descent, and convince us that the posterity of that Indian marvel, Pocahontas, are not particularly numerous so near the reputed home of her imperial father. We confess, however, to have lost a good deal of our former interest in that swarthy damsel, since ascertaining that she was the wife of a very worthy and respectable copper-skinned warrior, for some time, before she became the spouse of Mr. Rolf; nor have we any knowledge of his death at that period, though it is to be hoped he was either decently scalped or divorced, before the white man carried off his wife; yet, from the way in which Pocahontas was stolen, we fear not.

Hollywood Cemetery, though not so large as we anticipated, is one of the most beautiful spots we have seen selected for the purpose to which it is applied. Little rivulets steal, rippling, through it, in various parts; the surface is very broken, affording fine opportunities for judicious planting, and, though of comparatively recent purchase, much has been done to beautify the grounds. We were much struck with a most massive monument of red granite lately brought from Scotland, and just erected; with the monument in honor of Ritchie, the famous political editor, educator and regulator of Virginia, and the *want* of monument over the remains of President Monroe. He is buried in a far corner, though on the loftiest spot in

the whole cemetery, and commanding a noble view down the river. There is just visible, on a level with the surface of the ground, a parallelogram of brick work about 6 feet by 4—(apparently the top of a solid pier,) and intended, it is presumable, as the foundation for some sort of monument. A small cube of granite, evidently once used as a socket for the post of an iron railing, is set up at one end, as a sort of head stone; and this is all that indicates the place, where one of the most patriotic and one of the best of our Presidents waits for the final resurrection.—Through the politeness of a friend we were enabled to visit the very long established Nursery of Joseph Sinton & Sons, about three miles from Richmond.—These gentlemen are considered, as we ascertained by inquiry, as among the most reliable nurserymen in the State, and their varieties of apples to be particularly good. We did not find a very large stock of saleable trees remaining in the nursery, but observed a quite abundant supply of young stock. The fall sales, the proprietors informed us, had made the numerous gaps we observed in his nursery rows. We tasted here, however, what is not always very readily obtained, some most excellent cider made of the "Hughes' Virginia Crab," from fruit of trees grown upon the Messrs. Sintons' grounds.

We were much indebted to the officers of the Virginia Mechanics' Institute for a complimentary ticket of admission to their Exhibition, and for their polite attention whilst there. We regret that our stay was necessarily too brief to permit an extended examination of the numerous articles exhibited, but we saw enough to satisfy us that Richmond is not behind any city in the Union in her appreciation of the importance, and efforts to advance the interests, of the Mechanic Arts.

From Richmond we went to Petersburg; and we have rarely passed over twenty miles of more miserably looking country than that part of the County of Chesterfield which intervenes between Richmond and "The Cockade City." Pines, poverty and politics,—three things that seem to have a peculiar affinity in some parts of the country,—seem to possess the land. At Petersburg we found the State Fair in successful progress. The grounds just on the edge of the suburbs have greater natural beauties than any we have ever visited. Though not so large, perhaps, as the grounds at Richmond, yet those of the State Society were far more attractive. The trotting course, in the form of an ellipse, is placed at the foot of a gentle slope covered with lofty pines, amid which are placed the buildings necessary for the exhibition. This course encloses two or three small ponds of water, near whose margin the Judges' stand was placed. We noticed the same comfortable and convenient stalls for the stock as at Richmond, but the pens for swine were, inexcusably, without any cover or protection from the weather. The slope we have mentioned was divided, into two unequal portions, by a little valley, which widening, lost itself, at the edge of the Course, where a fine spring supplied with drinking vessels, and well walled up, and protected, poured a constant stream into a large square basin of masonry, and gave water, in abundance, to all. In the widest portion of this valley was placed the Stand for the speaking—a fanciful covered structure, surrounded by numerous seats placed about it amphitheatrically. There were two large and handsome octagon buildings, one for the Fruits, Vegetables, &c. and the other for the Ladies' work and other delicate articles; and having the musicians' covered stand placed mid-way between them; 2 cruciform structures, one used to display specimens of vegetables, grains, tobacco, &c., and the other by Rarey, the Horse Tamer,—two buildings for the Marshals and other officers,—a large wooden imitation of a Grecian Temple, placed upon the most conspicuous elevation within the enclosure, and used to exhibit Agricultural Implements,—and a modest little tent for the use of the Press, completed the ample accommodations. One great defect in all the larger buildings, except the Temple, was, that they were not provided with floors; and this was particularly censurable in the building where the Ladies' work was displayed. The soil was sandy, and the many feet, trampling inside the confined space, raised a dust that was almost stifling, besides being ruinous to the articles exhibited.

Here we had the pleasure of again seeing the thorough-bred stallions "Fly-by-Night" and "Revenue." The latter received the first, and the former the second premium; an award in whose justice we fully concur. The Cleveland Bay stallion owned by Philip St. George Cocke, Esq., of Powhatan county, received the first premium in his class This animal we thought quite as handsome as "Emperor" the stallion, of the same breed, exhibited at the Fair at Richmond, by the Hon. W. C. Rives. Here, too, we saw for the second time, "Kit Carson," the beautiful and rapid-moving Morgan stallion, owned by Norman Dayton, of New York. He received, as was his due, the first premium in his class. The Ticonderoga colts exhibited by Franklin Felton, of Govanstown, Md., were universally admired. His stallion Paul Clifford took the second premium in his class. The horses exhibited in the class of "Heavy Draft" were not at all remarkable. But one of the very best saddle-horses we have ever seen, was the superb dark bay stallion exhibited

by N. Berkeley, Esq., of Loudon county, Virginia. He was of the Telegraph breed, or, as it is most familiarly known in Maryland, the "Tom" breed; certainly the best breed altogether, for saddle horses of easy, yet rapid gait, in this country; and particularly adapted, by their kind and gentle dispositions, to ladies' use. We watched the rapid pace of Mr. Berkeley's stallion, and his sure and firm, but easy gait, as he was repeatedly ridden around the ring, with the same admiration which all who witnessed the performance warmly expressed, and felt fully justified in the preference we have always felt for this admirable breed for the saddle. There are two gentlemen in Baltimore County, whose stocks of Tom horses are particularly fine; but we have never seen any of the breed so large and every way desirable, as the stallion exhibited by Mr. Berkeley. The display of Jacks and Jennets, and of Mules, was very inferior.

Mr. S. C. Ludington, of Greenbrier county, Virginia, exhibited the same huge *Durhams* that he had previously driven to the Richmond Fair. He received three premiums for the three best and second best Durham Bulls of different ages—two for the best and second best cows, and one for the best heifer; all the rest of the premiums in this class were carried off by that energetic farmer, S. W. Ficklin, Esq., of Albemarle county. H. J. Strandberg, of Talbot county, Maryland, exhibited the herd of *Devons* that he had shown at Richmond, and carried off seven out of the 10 premiums received in this class; his cow "Matilda" received also the first premium in the class for Dairy Cows. The fine wooled Sheep exhibited by S. S. Bradford, Esq., of Culpeper county, took all the first premiums in that class. A full account of Mr. Bradford's Sheep will be found in the December No. of this Magazine. In the class of *Middle Wooled*, the first premium was awarded to Thos. Betts, of England, for his Hampshire Ram of that breed. The Durham cow and heifer exhibited by this gentleman were the finest animals in their class exhibited at the Fair, but though we believe they were not entered for competition, yet they received the highest discretionary premium. Mr. Betts informed us that the cow had been awarded nine first premiums in England, and that there were but two cows of her breed in England that were considered her superiors. For the best imported Cotswolds, all the premiums in that class were awarded to Col. J. W. Ware. Of *Swine*, there was quite a large number of exhibitors, and the show was much superior to that at the Fair at Richmond. In the class of Large Breed the first premium was received by S. W. Ficklin, already mentioned, for his Chester boar; the first, for the best Breeding Sow over two years old, of the same breed, by Thomas Wood, of Chester county, Pennsylvania; and the first, for the best Sow of the same breed not over eighteen months old, by Peyton Johnston, Esq., of Richmond, for his Virginia Grazier Sow. We have already described the fine Swine of the last named gentleman, in our December No., but will mention in addition, that in the class of Small Breed, his Hampshire Boar "Frank" received the first premium for the best Boar of that breed, one year old; his Hampshire sow "Princess," the first premium for the best Breeding Sow of that breed, over two years old; besides which, his swine received other premiums in other classes. The chief exhibitors of *Poultry* were M. A. Turpin, Esq., of Chesterfield Co., and Andrew Boisseau; though fine birds were exhibited by others, and, among them, the "Black Polands" of W. Rowlett, and the "Games" of E. D. Tannahill, of Petersburg, were particularly good. Of Agricultural Implements and Machines, E. Whitman, of Baltimore was a large exhibitor, and received a number of premiums, a list of which he has published in the Advertising Sheet of the Farmer for December. Mr. Uriah Wells, of Petersburg, exhibited an extensive collection of ploughs and other implements, and received the premium for the best plough for three or four horses. Mr. George Watt, of Richmond, received the premium for the best single horse plough. For the best straw cutters of each kind the first premiums were awarded to G. B. Griffin, of Harrisburg, Pa., and for the best Grain Fan, Messrs. J. Montgomery & Bro., as they very generally do, carried off the premium. The display of *Fruits* was very small, but the first premium was awarded to Messrs. Joseph Sinton & Sons, of near Richmond, and the second to Franklin Davis, of Staunton; each exhibiting, however, apples only;—the fruit trees from the nursery of the latter gentleman, received the first premium in that class. Why a premium should be offered or awarded for a Strawberry plant, we cannot imagine; it strikes us as extremely absurd when there is no fruit to accompany the plant. There were but few *Vegetables* exhibited, and those not at all remarkable. Of Butter, there was but a small display. Mr. Jabez Smith, of Petersburg, had a large bag of Hungarian Grass Seed on exhibition; it was evidently quite a novelty in that part of Virginia. Very fine Wheat was exhibited by Paschal Buford, Esq., of Bedford county, Virginia; a remarkably early variety of Corn, called the "Sixty day Corn," by J. A. Pace, of Delaplaine, Minnesota, and a variety of corn called the "Cabin Maple Corn," said "to yield, in quantity, quality and weight, more than any other maize," was exhibited by J. E. Burton, of Petersburg. The white corn exhibited by B. K. White was remarkably good.—One hundred varieties Field Peas, from Georgia, were exhibited by Peyton Johnston, Esq., of Richmond, and these, we are happy to state, we have

now placed in our museum, together with specimens of all the more interesting cereals, and varieties of Tobacco and other great staples, that we obtained from the exhibitors at the Fairs in Virginia which we visited.

We have not space to mention all the various ingenious implements and machines seen by us at this Fair, but among the most ingenious, we noticed particularly the Stave & Shingle Machine, patented by Orr, and improved by W. Kirkpatrick, of Lancaster, Pa. exhibited by M. Connell, Jr. of Lynchburg, Va., and the Independent Portable Steam Saw, for felling trees, cross-cutting wood, &c., patented by Fairbanks, Wilmot & Co. but exhibited by the present assignees, the Forest and Agricultural Steam Engine Co., of Water street, N. Y. This latter machine, which appeared to be very economical and efficient, we were informed was to be seen in active operation upon the plantation of William Allen, Esq., called "Clermont," on the James River. Many persons we observed to be visitors to the spot where was exhibited the "Roller Washing Machine," patented and manufactured by Mr. Abraham Huffer, of Hagerstown, Maryland. The Dumping Wagon, exhibited by Theodore Baily, the maker and inventor, whose address is Washington, D. C., was one of the most ingenious contrivances for discharging heavy loads of manure, or other weighty substances that we have ever seen; combining the advantages of two carts, with those of the Wagon. There was a good display of Agricultural Implements by Williams & Alston, of Warrenton, N. C., and they received the premium for the best 2 horse Plow and best Cultivator for corn. To W. H. Tappey, of the Southern Foundry, Petersburg, was awarded the premium for the best Saw Mill for farm purposes. The "Buck-eye Mower" exhibited by the agent of the manufacturers, Messrs. C. Aultman & Co. of Canton, Ohio, received the premiums for the best Reaper, and for the best Mower. This is the same machine that was exhibited at the Maryland State Fair, and which, at the great exhibition of Reapers and Mowers, at Syracuse, received the first premium. It is decidedly one of the very best machines of its class now in use, and we have had the highest opinion of it ever since we saw it for the first time at the grand trial of Reapers and Mowers at Chestertown, in Maryland, two or three years ago.

Our notice of the Cattle exhibited at this fair would not be complete without mention of the fine herd of Imported Herefords, exhibited by Thomas Aston, of Elyria, Ohio, and the Alderneys of W. C. Wilson, of Maryland, exhibited by M. Goldsborough. Mr. Aston received five premiums, and the Alderneys from Maryland, four. Interesting discussions upon agricultural subjects took place, at night, at several meetings of the farmers of Virginia presided over, at one of the churches in Petersburg, during the fair, by that venerable Nestor of Agricultural Councils, Ed. Ruffin, Sr., Esq. At one of these we were present and heard with much interest, the very excellent remarks made by Mr. Ruffin, giving his experience on one of his favorite topics, "Draining;"—both on the surface and below ground. We were much indebted to Thos. S. Pleasants, Esq. editor of the Southern Farmer, to J. E. Williams, Esq. Secretary of the State Society, and to Edmund Ruffin, Sr. Esq. and to the gentlemanly editor of the Petersburg Express for their politeness and attention. We think, all things considered, and that this was a State fair only, whilst that at Richmond was the combined effort of the Virginia Central and the United States Society, that the Fair at Petersburg was decidedly superior to that last mentioned.

[Continued in our next.]

NURSERY CATALOGUES RECEIVED.

For the various Catalogues of Fruit and Ornamental Trees, Shrubs, Roses, Greenhouse Plants, &c., received since our last No. was sent to press, the gentlemen who did us the favor to send them will please accept our thanks. We acknowledge the receipt of the following from *Pennsylvania*:—From *R. Buist*, of the Rosedale Nursery, near Philadelphia, and of Market street in that city, his seven Catalogues;—of Greenhouse, Hothouse and Hardy Plants; of Select Fruits; of Flowering Bulbous Roots; of Select Roses; of Garden Seeds; Descriptive of Hardy Trees, &c., and Descriptive of Flower Seeds. From *Thomas Meehan*, of the Germantown Nurseries, Catalogue of Fruit and Ornamental Trees. *Thomas M. Harvey*, of Jennersville, has sent us his Catalogue, but states that he has sold his interest in the Harmony Grove Nurseries, at that place, to Isaac Jackson & Co., whose Catalogue of eighty-one varieties of the Strawberry Plant we have also received. Mr. Harvey is devoting his attention exclusively to the propagation and culture of the grape vine, of which he has one hundred varieties. *Ohio.*—From *M. B. Bateham & Co.*, of Columbus, Descriptive Catalogue of Fruit and Ornamental Trees; also similar Catalogues from *Nyhell Miller*, of Bellefontaine, and from *James Edgerton*, of Barnesville, whose Descriptive Catalogue we have also received; from *Edmond Craig* of the Cheviot Gardens, near Cincinnati. From Messrs. *Geo. Dana & Son*, of Belpré, in Washington county, a Catalogue of Fruit and one of Ornamental Trees. We have seen the fruit from apple trees purchased at this long-established nursery, and growing upon the farm of Mr. Robert Park, near Ravenswood, Jackson Co., Va., immediately upon the Ohio, and can testify that we have never seen such large and perfect apples anywhere since; especially did we admire the celebrated "Rome Beauty." *Kentucky.*—From *Hobbs, Walker & Co.*, twelve miles from Louisville, their new Catalogue of Fruit and Ornamental Trees. *Illinois.*—From *A. R. Whitney*, Franklin Grove, his Catalogue of Fruit and other Trees, and his Catalogue of Greenhouse Plants, &c.; from *Edgar Sanders*, of Chicago, his Catalogue of Plants; from *E. E. Bacon*, of Willow Creek, Lee county, Catalogue of Fruit and Ornamental Trees, &c.; from *O. M. Colman*, his Catalogue of Apple Trees, and offering for sale 200,000 Osage Orange Trees, two years old; from *Clark & Barnard*, Edwardsville, their Catalogue of Fruit Trees, &c., and one of the same kind from Henry Shaw, of Tremont, Tazewell county.—*Iowa.*—From *Nealley Brothers & Bock*, of Burlington, Catalogue of Fruit Trees, &c. *N. York.*—From *H. Collins*, of Auburn, Descriptive Catalogue of Fruit Trees, &c., and his Trade List; from *C. Reagles & Son*, Schenectady, their Descriptive Catalogue of Fruit Trees, &c., and Trade List; from *J. D. Ingersoll*, of Ilion, his Catalogue of Grape Vines; from *S. T. Kelsey*, near Great Valley Depot, his Wholesale Catalogue of Trees and Shrubs. *Masse-*

shrubs.—From *Marshall P. Wilder*, of Boston, his Descriptive Catalogue of Fruit Trees, &c.; from *B. K. Bliss*, Springfield, Descriptive Catalogue of Flower Seeds, and of Vegetable and Agricultural Seeds; from *W. C. Strong*, Brighton, his Priced List and Supplement of Fruit Trees, &c. *Maine.*—From *John W. Adams*, near Portland, Catalogue of Fruit Trees, &c., and his Wholesale Price List of Hardy Evergreens, &c.; from *H. C. Little & Co.*, Bangor, Catalogue of Evergreens, &c.; from *S. L. Goodale*, Saco, Descriptive Catalogue of Fruit Trees, &c. *Virginia.*—From *Franklin Davis*, of Staunton, Descriptive Catalogue of Fruit Trees, &c., and from *Miller, Plank & Co.*, of Lynchburg, a similar Catalogue.—*South Carolina.*—From *Wm. Summer*, Pomaria, his Catalogue of Southern acclimated Fruit Trees, &c., with notice of his having pure North Devon Cattle, South Down Sheep, from stock of Jonas Webb, of England, and Improved Essex Swine, for sale.—*Mississippi.*—From *W. C. Tucker*, Columbus, Descriptive Catalogue of Fruit Trees, &c. *Mexico.*—*B. Roez & Co.*, of Napoles, near the city of Mexico, their Catalogue of Mexican Seeds and Plants.

ACKNOWLEDGMENTS.

From Messrs. Borum & McClain, of the famous "Farmers' Head Quarters" Agricultural Implement and Machine Warehouses and Factory, at Norfolk, Va., we have received a copy of the "City Index," a widely circulated advertising newspaper, published by them. It contains a very flattering notice of the December No. of our Magazine, which nothing but our proverbial modesty prevents us from transferring to our pages. We thank the "*Wisconsin Farmer*" for the very complimentary notice of our humble selves, in the account given by one of the Editors, in the December No. of that "wide-awake" Magazine; in which, speaking of his recent visit to the South, he says: "We have pleasure in making honorable mention of the *American Farmer*, the oldest and at the same time one of the *livest*, most reliable farming magazines published in America. The editors are both men admirably fitted for the leading position they occupy, and are doing a noble work for the Agriculture of Maryland. We assure them of a warm place in our heart of hearts, and guarantee them a cordial welcome, should they ever find their way to 'Woody Wisconsin.'" We need hardly assure our friend the Professor and his able coadjutor, that a similar welcome always awaits either of them, from us, whenever they visit Maryland. We hope they will always find the "Farmer" to be, as, in another gratifying notice of us in the same No. of their Magazine they say we are, "*up with the times*"—but we would like to borrow that lady's pen whose assistance gives so much value and attraction to the "Wisconsin Farmer," and then we should be "*ahead* of the times." The Hon. James B. Ricaud will accept our thanks for a copy of the Smithsonian Report for 1857. We are obliged to B. P. Johnson, Esq., Secretary of the New York State Agricultural Society, for a copy, in pamphlet form, of the Address delivered before that Society at Syracuse, last October, by Joseph P. Williams, President of the Michigan State Agricultural College. A copy of a pamphlet entitled, "The Coast Survey: Its Cost, Abuses and Power," has been received. We are indebted to J. H. Miller, Esq., for a small jar of "Sorghum" Syrup.

NEW AMERICAN CYCLOPEDIA.—We are indebted to the publishers, Messrs. D. Appleton & Co., for the 4th volume of this valuable "Popular Dictionary of General Knowledge." The present volume commences with the title "Brownson," and ends with that of "Chartres." We have been unable to do more than make a very cursory examination of its contents; but the editors appear to be performing their task with great industry and fidelity.—Biographical sketches of the present President, of Mr. Cass, of Mr. Calhoun, of four of the Calverts, including the first Lord Proprietary, of Charles Carroll, the "Last of the Signers," and of William Byrd, of Virginia, are contained in this volume.—Catawba Wine is very fully noticed. The enterprising publishers deserve the thanks of the public, for supplying to the library of the American scholar a Dictionary, the want of which is so generally felt.

Dewey's Coloured Fruit and Flower Plates.—Mr. D. M. Dewey, Bookseller, Rochester, N. Y., has, in consequence of the great demand, entered extensively into the publishing of coloured plates, for the use of all Horticulturists, Florists or Amateurs; and employs artists of long experience in drawing and colouring. These Plates, being drawn from nature, and coloured by hand, are unusually accurate. Nurserymen and their agents will find them of great value in the sale of trees, and of roses and other flowers; they should thank Mr. Dewey, for so completely supplying their evident wants in this particular. We have received four of Mr. Dewey's beautiful plates, and have had them framed, and hung up in our office.

REPORT OF THE MAINE BOARD OF AGRICULTURE.—From S. L. Goodale, Secretary, we have the copy of his second Annual Report, an octavo volume of 230 pages, plentifully illustrated with engravings of many fine domestic animals of various breeds.—Among other most interesting matter will be found a very valuable communication upon the subject of Horse-shoeing, and the Horse's foot, addressed to the Secretary by M. A. Cuming, V. S. member of the Royal Veterinary College of London and Edinburgh. This article is well illustrated by many wood cuts. We shall have occasion in a subsequent number to make more particular mention of this most excellent Report, and, meanwhile, present our sincere acknowledgments to Mr. Goodale, for his very polite attention in transmitting it.

The Northwestern Farmer and Horticultural Journal.—This is one of our recently acquired and valuable "exchanges." It is conducted with ability and success by Messrs. Miller & Brayton, assisted by Mr. Solomon Lombard;—the Ladies' Department is under the control of the accomplished pen of Mrs. Mary A. C. Hanford. Published in handsome style at Dubuque and for the very moderate sum of $1 per annum—this excellent Monthly does great credit to the young and flourishing State of Iowa, and to the Agricultural spirit of the subscribers who sustain the Editors in this praiseworthy enterprise.

LAWRENCE SANGSTON, Esq., will please accept our thanks for his very polite and most agreeable attention in presenting us with complimentary tickets of admission to the Lectures at the Maryland Institute.

The California Culturist.—We could not help the common "American" exclamation, "This is a great Country"—when we received this, one of our very latest exchanges. Here is a Magazine of the size and style of the "Horticulturist" established by Downing, excellently illustrated, and in type and paper as well as contents one of the first class, and yet, the production of a State of yesterday. Many of the old States of the Union may be put to the blush by the far greater energy and enterprise of their young sister. The Culturist is edited by W. Wadsworth, Secretary of the California Horticultural Society and published by Messrs. Towne & Bacon, at San Francisco.

The Virginia Farm Journal.—The first No. of a new Agricultural Weekly, with the above title, we have received. It commences its career with the first day of the New Year. We give it the compliments of the season, and our best wishes for a successful career. It is published at Richmond, Va., by M. S. Crockett, Esq., every Saturday, at $2 per annum, in advance.

American Druggists' Circular and Chemical Gazette.—This is "A Practical Journal of Chemistry, as applied to Pharmacy, Arts and Sciences," and is "a general business organ for Druggists, Chemists and Apothecaries," and is one of our exchanges recently received. It is published monthly by L. V. Newton, M. D., at $1 per annum in advance, at 36 Beekman street, New York."

New York Observer.—This widely circulated, religious, family and, partly, agricultural weekly is so well known and its excellence everywhere so highly appreciated, that we need hardly do more than name it as one among our very numerous and valuable exchanges. It is published in New York every Thursday, at $3 per annum, in advance.

American Stock Journal.—The publication office of this well conducted Journal, so useful to stock-breeders, has been removed by the enterprizing editor and proprietor D. C. Linsley, to No. 140 Fulton street, New York, where it will be published henceforth with, we hope, a largely increased patronage, and with the same ability and success as heretofore. The price, $1 per annum, is very moderate.

From W. R. FULLERTON, Agent, No. 11, Columbia street, Cincinnati, Ohio, we acknowledge receipt of The Circular (in illustrated pamphlet form) of the Patent Wire Fence Company.

FIELD PEAS.—Those who mean to use this very valuable fertilizer the coming season, will find by the advertisement of Messrs. Sands & Dougherty, that they have a supply of the new crop already on hand. They would do well to supply themselves early, as of late years, a postponement has generally resulted in disappointment. We need not express again our opinion of the value of the Pea as a fertilizer. The money spent in guano and other manures, would in many cases be much more properly laid out in peas for seed.

Keep doing, always doing. Wishing, dreaming, intending, murmuring, talking, sighing and repining, are all idle and profitless employments.

OUR MUSEUM.—We have added to our collection by the kindness of J. V. Jones, Esq, of Burke Co., Georgia, a most remarkable and valuable collection of specimens of 100 varieties of Field Peas, 80 of which were originated by Mr. Jones. The peas are contained in a handsome case, 18 inches square, each variety in a little cubic division of about 1¼ inches each way, the whole covered by one large pane of glass. This case of peas we saw at the Virginia State Fair, at Petersburg, where it was awarded a premium. The gentleman having it in charge, seeing with what a covetous eye we beheld it, very politely wrote to Mr. Jones, and induced him to enrich our Cabinet with this, one of its most attractive ornaments.

From Mr. Tyson, our indefatigable State Chemist, we have received a fine specimen of Green Sand and Silicious Sand, intermixed with fossil shells from a deposit on the farm of R. M. Brooke, Esq., in Prince George's Co. Md., and 3 miles S. E. of Anacostia Bridge, D. C.; and from a friend, near Easton, in Talbot Co. Md., specimens from a bed of *marl*, near that place, which is probably the richest deposit of that great natural fertilizer in that county.

MODELS RECEIVED.—Mr. Owen Dorsey, the Inventor and Patentee, has left at our office a very costly and beautiful working model of his Self-raking Reaper. This very ingenious machine has been noticed on several occasions by us, and we have witnessed it in successful operation in the field. It is entirely different from Atkins' Self-raking Reaper, and has advantages in simplicity, lightness, durability and price, that the latter does not possess.

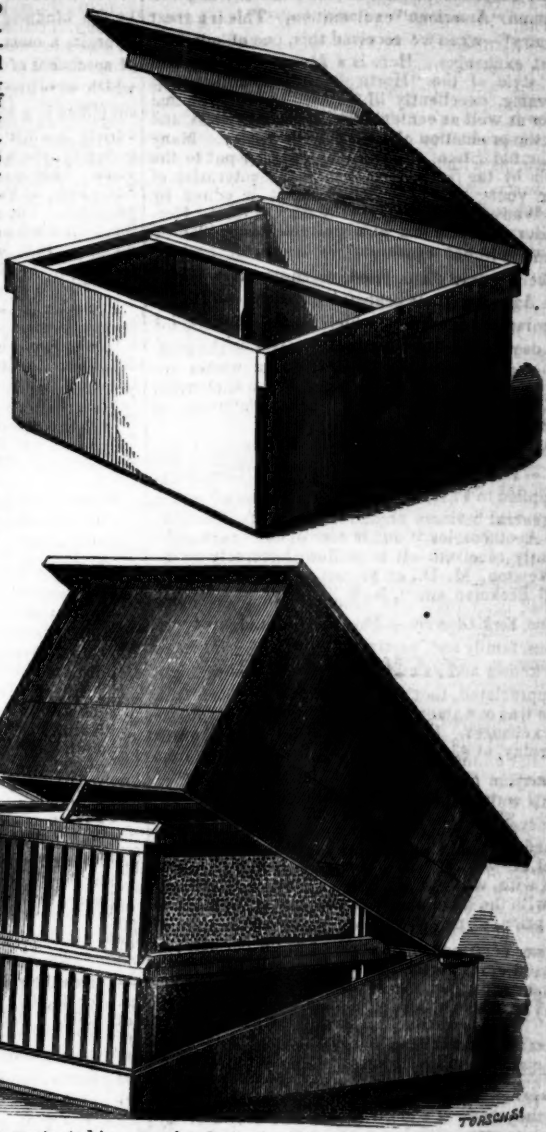
From the Rev. L. L. Langstroth, the inventor and original patentee, we have received an excellent model of the famous "*Langstroth Bee Hive*," a description of which we have given in the "Farmer" for this month. The model contains the recent ingenious improvements added by the reverend gentleman to his original invention. Those who keep bees should examine this model, for we are sure if they do they will find the Hive to be all that its friends claim.

MAP OF TALBOT COUNTY, MD.

We acknowledge the receipt from M. Tilghman Goldsborough, Esq., of a map of Talbot county, by Mr. William H. Dilworth, under the auspices and patronage of the Board of Trustees of "the Maryland Agricultural Society for the Eastern Shore." The map indicates, distinctly, every thing worthy of note in the Geography of the county, marks the limits of every farm, gives the name of each proprietor, and supplies admirably for Talbot, what is a great want of every county in the State, with a few exceptions.

The thanks of the people of Talbot and of all who feel an interest in the geography of the State are due to the Board of Trustees of the Agricultural Society for the Eastern Shore, for a work so worthy of its own character for practical usefulness, and to Mr. Dilworth for the highly creditable manner in which it is performed. Ours are particularly due to Mr. Goldsborough for his politeness in furnishing a copy to adorn the walls of the "Farmer" office.

REV. L. L. LANGSTROTH'S MOVABLE COMB BEE HIVE.



The above cuts represent, two styles of a Hive patented by the Rev. L. L. Langstroth, formerly of Philadelphia—one of the simplest and cheapest form, and the other a two-story double glass Hive. The top of the latter is raised, in order to show its interior arrangement, which consists of four posts fastened on the bottom board, with railing on their tops extending from one to the other. These posts and rails are rebated on both sides, and form double sash in which glass is set on all four sides, and through which a full view of the operations of the bees may be had; the two end (front and back) rails are also rebated out on their inside edges; and from the top downwards, on these rebates light wooden frames are suspended (or rest) reaching nearly to the bottom of the Hive. In these frames the bees build their combs, and, as each comb is built in a single frame, detached from the others, and the frames are all movable, each and all of them may be taken out separately from the others, and examined and replaced at the pleasure of the owner. The inner glass apartment or "BEE CHAMBER" is covered with a board which rests on the top rails a little space above the tops of the frames, and is also movable, so that it may be taken off and put on at pleasure. This board is perforated with holes, over which a second, or even third story (with large or small frames in it) or spare honey receptacles, of any description to suit the taste or fancy of the owner, may be placed, and in which the bees can store their surplus honey, free from "*bee bread*" and "*young brood.*"—Between the inner or glass "*bee chamber*" and the outside portions of the Hive (which are made of wood) a few inches space is left, which, with the space between the double glass, forms 2 dead air chambers, round the sides of the bee chamber, and serves to protect the bees and their combs from extremes of temperature.—The "*alighting board*" is covered by a roof, so that the bees are protected from the rain the moment they alight upon it. The size of the entrance, (by an ingenious though simple contrivance) may be enlarged, diminished or closed entirely, at will; and, by the same contrivance, the drones (which are consumers and not producers of honey) are excluded, and the Hive made a "*swarmer*" or "*non-swarmer,*" as may be desired. This Hive which is attracting great attention, particularly amongst our most intelligent bee-keepers, may be made of different kinds of wood and at various costs, with or without glass, and is so simple in construction, that any one accustomed to handling tools may make it. Its most important advantage is that it gives the owner complete *control* of his

Hive, bees, comb and honey, as well as an *effectual* remedy against their being destroyed by "*bee moth*," or "*miller*." It not only obviates the necessity of destroying the bees to take their honey, but furnishes the greatest convenience for taking it, in any desirable form, and in such portions (both in quantity and quality) as is most desirable. It also enables the owner to supply his weak swarms with honey, or young bees from his strong swarms, at will; in short, there is no operation, necessary to the prosperity of his bees, which he may not perform with perfect safety to himself and without injuring Hive, comb, or bees. We were greatly surprised, a short time since, in witnessing their peaceful quietness while undergoing an operation, which hitherto, we had supposed could not have been performed without almost endangering the life of the operator, and who informed us that he attributed their friendly disposition in a great measure to this system of management.

We have received from Mr. Langstroth, models of the two Hives represented in the cuts above, to which we invite the attention of those interested. We learn he is about publishing another edition of his work on Bee Culture, which will doubtless be gratifying intelligence to those who had been unable to procure a copy of the previous edition, before it was exhausted.

LAND SALES.

MARYLAND.

Baltimore County.—Mr. S. H. Gover, auctioneer, sold at the Exchange Reading Rooms, a tract of land on the Philadelphia road, five miles from the city, a part of "Gay's Enlargement," containing 62 acres, which was purchased by G. R. Burroughs for $36 per acre; a lot of 27 acres was purchased by Chas. Webb for $27 per acre; a lot of 70 acres was purchased by White & Elder for $9 per acre; a lot of 104 acres was purchased by Charles Webb for $8.50 per acre; a lot of 130 acres was purchased by White & Elder for $8.00 per acre; one of 280 acres at $6 per acre; one of 103 acres at $14.50 per acre; one of 86 acres at $7.00 per acre; one of 106 acres at $11 per acre; one of 198 acres at $6 per acre; and one of 37 acres at $11 per acre.—The whole quantity of land sold was 1,204 acres. There was sold at auction, at the Exchange, a tract of land containing 200 acres, situated in Baltimore Co., six miles from the city, near Reistertown, known as "Salubria Farm," late the property of Dr. Benj. P. Power. Mr. Jas. L. Sutton was the purchaser at $32 per acre. It is improved by a two story dwelling house, corn house, and other outbuildings.—*Sun.* Mr. Y. P. Jones, of the 11th District, sold the balance of his farm, 85 acres, more or less, to Mr. Edward F. Jenkins, for $50.00 per acre. It is about 16 miles from Baltimore, near the Harford turnpike.—*Advocate.* *Dorchester Co.*—Capt. John E. Stevens sold his farm, near Cambridge, to Mr. T. T. Martin, of Baltimore, for $6.000. It contains about 100 acres of land, with all the necessary buildings on it.—*Herald.* *Frederick Co.*—Sold by the Trustees, the Catoctin Iron Works, together with 7000 acres of land, for $61,000. John Kunkel, Esq., purchaser; also, on account of trustee, the home farm of Jas. Kunkel, deceased, containing about 280 acres, at $55 per acre; 100 acres of which were purchased by Capt. David Kailor, and the residue by Geo. W. Summers, Esq. Also, about 18 acres of mountain land at $40 per acre, purchased by Michael Stein, Esq. *Howard Co.*—Waverly, the farm of the late Gov. Howard, near Woodstock, on the Baltimore and Ohio Railroad, was sold a few days ago for $51.10 per acre. The purchaser is a party from this city. —*Sun.* *Kent Co.*—Messrs. Handy and Gordon have sold their farm in Kent Co., Maryland, lying on the Chesapeake bay, formerly the Mitchel property, to Abel J. Rees, Esq. It contains 1,040 acres —price $40,000. This is one of the finest estates on the Eastern Shore, and one of the most productive.—*Kent News.* *Montgomery Co.*—Dr. Jewell, of Washington, has purchased the elegant farm and stock of Lieut. Julius S. Bohrer, situated in Montgomery county, Md., about six miles from Georgetown, known as "The Cottage," and containing about 180 acres. The price agreed upon has not yet been made public, but is, we learn indirectly, about $5000.—*Washington Star.* *Prince George's Co.*—Samuel H. Berry, Esq., Trustee, disposed at public sale, of the real estate of the late Allen P. Bowie. The home place, containing 401 acres, sold for $56 per acre, and was purchased by John E. Bowie, Esq. Capt. Finotti has sold his Beach Hill farm to Mr. M. H. Fry, of Virginia, for $5000, cash sale. Beach Hill contains less than 150 acres, and no improvements; is three miles from Alexandria, and six from Washington City.—*Gazette.* Washington J. Beall, Esq., has disposed of part of "Greenwood," containing 300 acres, to Albert B. Berry, Esq., at $14,500—or at the rate of $77½ per acre. *Washington Co.*—Alex. Neill, Trustee of J. D. Grove, dec'd, sold a tract containing about 30 acres, to Greenberry Foutz, at $30 per acre. The same, Trustee for Daniel Welty, dec'd, sold the farm of the said deceased, containing about 147 acres, to David Cauffman, at $37.25 per acre. The farm of the late John D. Rench, containing 132 acres, and lying partly in this and partly in Franklin Co., was last week sold by Mr. Nathan Brumbaugh, for the sum of $80 per acre, to Mr. Michael Yessler.—*Herald.*

VIRGINIA.

Monongalia Co.—The Monongalia, Va., Star notices the sale in that county of 100 acres of land for $3,000; and a mountain farm of 100 acres for $500. *Bedford Co.*—A tract of land containing 250¼ acres, about 16 miles south of Liberty, on the R. Mount Turnpike, belonging to the heirs of Bernard Garrett, dec'd, was sold by E. C. Jones, Com'r, for $21 per acre, purchased by C. C. Peters, Esq. A small tract of 100 acres, lying near Liberty, was sold by R. D. Buford, Com'r, at 30.25 per acre—purchased by Col. John Crenshaw.—*Sentinel.* *Albemarle Co.*—"Edgemont," the estate of the late Gen. Wm. F. Gordon, measuring 1,371 acres, has been sold to Dr. Chas. Hancock, of that county, at $30 an acre.—*Richmond Dispatch.* *Pittsylvania Co.*—The estate of the late Col. L. Claiborne, of Danville, was sold last week at prices ranging from $15½ to $16½ for 1668 acres.—*Richmond Dispatch.* *Fairfax Co.*—Col. Chas. A. Wash-

ington has sold his farm, "Wellington," about four miles from Alexandria, containing about 670 acres to Mr. T. Snowden, of New Jersey, for $30 per acre. *Culpepper Co.*—Col. Wm. B. Ross, near Brandy Station, has disposed of 400 acres of his Bel Pre estate, to Dr. J. P. Thom, at $40 per acre, without any improvements upon it.—*Observer.* *Marion Co.*—Mr. U. N. Arnett sold to a gentleman from Berks county, Pa., 100 acres of land, lying a few miles from this place, at $25 per acre. The land is a part of the tract formerly owned by Pinckney B. Arnett, dec'd, and has upon it neither dwelling house nor any other improvement.—*Virginian.* *Campbell Co.*—A tract of land of 940 acres, near Lynchburg, Va., was sold on the 25th inst., at $8 per acre, to Col. Wm. B. Brown, of that city.—*Richmond Dispatch.*

NORTH CAROLINA.

At a sale of land recently made in Edgecombe county N. C., one tract of 840 acres was sold for $15,820, or $18.83 per acre; another of 240 acres for $7000, or $29 per acre.—*Richmond Dispatch.*

KENTUCKY.

Shelby Co.—Mr. Richard Merriwether has sold his farm of 240 acres, 8 miles from Shelbyville, to Mr. Philemon Bird, at $69 per acre, on the usual terms.—*Louisville Courier.*

PENNSYLVANIA.

The following reports of sales are taken from our Exchanges in several counties: *Chester Co.*—H. Buckwalter, Real Estate agent, sold Wm. Miller's farm of 118 acres, in Schuylkill township, to Samuel Pennypacker, of same place, for $57 per acre. Estate of Conrad March, dec'd., farm in West Pikeland, 105 acres, sold to John Yeager, Jr., of East Pikeland, $72 60 per acre. Mr. W. R. Shuler, of West Vincent township, sold his farm of 148 acres to Henry Hall, of East Nantmeal, $80 per acre. The farm of Mr. Strickland, deceased, in London Britain, 200 acres, sold to T. Slack, $47.25 per acre. Geo. Harkey, of New Holland, purchased the farm of Robt. B. Gamble, in Honeybrook twp., Chester Co., $75 25 per acre—50 acres. Hiram Hunt, 23 acres, West Goshen, to Ralph F. Brown, for $1500. The farm of Cloud Elliott, West Goshen, 40 acres, purchased by Isaac Williams, of Germantown, for $4000. The farm of Rev. W. W. Latta, East Whiteland, about 100 acres, sold to Jacob Stublebine, at $119 per acre.—The farm of Henry Kurtz, 98 acres, East Goshen, at private sale, to G. W. Doran, at about $90 per acre. Property of Wm. R. Shuler, East Vincent, about 150 acres, to Henry Hall, at $50 per acre.—The property of Jacob Smith, East Nantmeal, about 85 acres, to Levi Keim, for $50 per acre.—56 acres in East Pikeland twnp., estate of Garrett Clemens, Sr., dec'd., to Jacob Clemens, Jr., for $65 25 per acre. 30 acres, property of Jacob Grubb, East Vincent twnp., to Jacob Vanderslice, for $2675. *Lancaster Co.*—A tract of land in Sadsbury twnp., 49 acres, 11 perches, with two story stone dwelling house, large barn, &c., property of Christian Umble and Henry Umble, to Joseph Blank, for $3200. Mr. Henry May, of West Hempfield twnp., lately sold 100 acres of Chesnut Hill land to Mr. John Brubaker for $7,000.—*Northampton Co.*—William Snyder sold his farm in Lower Saucon, 54 acres to Mr. Cressman, of Stony Point, Bucks Co., for $6000, about $111 per acre. *Montgomery Co.*—The farm of Jacob Mauger in Pottsgrove twnp., 50 acres, to Percival B. Griesemer, of Chester Co., at $40 per acre. Daniel L. Detwiler, Limerick twnp., his farm of 57 acres and 36 perches, to Thornton Conrow, of Philadelphia. Henry Custer, of Upper Providence, his farm, near the Trappe, 60 acres, to A. V. Custer, for $4700. Hon. Jacob Fry, Jr., one of his farms, in Upper Providence, to Frank Gilbert, of Limerick twnp., for $90 per acre. *Berks Co.*—Adam Swavely, of Pike twnp., his farm of 83 acres, to John Moyer, for $4,500. *Bucks Co.*—Charles Knight, 13 acres in Byberry, to John Bowman, for $2,400; and 35 acres adjoining same, to Jonathan Knight, for $200 per acre. Nathaniel B. Jones, his farm of 103 acres, in Falls twnp., to Henry Smith, for $8,500. The farm of Mark Healy, dec., in Falls, 50 acres, to Sarah Healy, for 96 per acre. The real estate of John Briggs, Falls twnp., 183 acres, to Benjamin Briggs, at $115 per acre. The farm of Henry Cooper, in Byberry, 70 acres at public sale to Benjamin Knight, for $130 per acre.—The farm of Wm. Tomlinson, in Byberry, 40 acres, for $172 per acre, to Thos. J. Husband, of Philadelphia. The farm on which George H. Sellers resides, 145 acres, in Middletown, to Isaac Livezey, of Attleborough, for $95.25 per acre. The one adjoining, 65 acres, was struck off to B. F. Streeter, for $68 per acre. Mahlon Reeder's farm of 44 acres, without buildings, near Pennsville, was sold at public sale, to Edmund S. Atkinson, for $59 per acre. Oliver Paxson, has sold his farm, in Solebury, containing 102 acres, to Thomas Ely, for about $11.000. Phineas Hough, his farm in Lower Makefield, at private sale, to Hiram Burges, for $90 per acre. Chalkley J. Kimble purchased farm of Anthony Walton, 36 acres for $45 per acre. The farm of Martin Loux, decd., in Tinicum, containing 143¼ acres, to Franklin Laubenstine, for $28 per acre. Chas. Atkinson, his farm in Solebury, 117 acres, to Anthony W. Rich, for $84 75 per acre. Four acres of woodland, the estate of Eli Ruth, dec'd, in Hilltown, to Henry Swartley, for $110 per acre.—Eighteen acres in Hilltown, property of Simon Shoil, decd., to Philip Swartley, for $2101. The fram of John C. Cresson, in Newtown twnp., 82 acres, to Cyrus T. Vanartsdale, of Northampton, for $125 per acre. Isaiah W. Closson, his farm in Wrightstown, 41 acres, to John Cooper, for $131 per acre. John Leslie, his farm in Middletown, 91½ acres, to Benjamin Mather, for $10,200, which is about $1000 more than Leslie paid for it three years ago. Alfred Marple, (post master,) at Attleborough, has bought 78¼ acres of land, near Seller's mill, in Middletown, for about $76 25 per acre. The farm of Joseph Smith, in Plumstead, 60 acres, to Abraham Keller, for $60 per acre.—The real estate of Thomas Mogridge, dec'd, in Richland, 92 acres, to Joseph W. Reckless, of Burlington, New Jersey, for $72.50 per acre.—William Worthington, farm of abont 52 acres, in Buckingham, to Chas. Harrold, for $65 per acre.—Eleazer and Uriah R. Twining, their farm in Warwick, 108 acres, to Nathan Holbert, for $75 per acre. Isaac Livezey, his farm, near the Academy, at Attleborough, 43 acres, to Joseph Eastburn, for $100 per acre. The Germantown Telegraph reports the following: The farm of William H. Boileau, near Bustleton, 50 acres, to George W. Saurman, for $195 per acre. Also, the farm of Joseph Reese, in Mooreland, to Benjamin Tomlinson, for $125 per acre.

STOCK FEEDING IN WINTER.

As the time for stall-feeding is at hand, it may not be amiss to give your readers a bit of my experience upon this important subject, as I think the experimental portion of your paper is much more interesting to us common farmers than is the theoretical.

For several years I fed my corn in the ear, and with stabling and the best of care, could add but little to the weight of my cattle during the winter, and I had nearly given up feeding cattle, as I found that I could not make it pay. But three years ago I fell in with a "Little Giant Stock Mill," and liked its operation, procured one and set it to work and, during the first winter, I ground and fed some twelve hundred bushels of ears of corn to my horses, cattle and sheep, and never wintered the same as well and as cheap as I did that winter The next winter I commenced again in a small way to stall feed, the result of which fully satisfied me that two bushels ground with the cob, was worth more than three fed without grinding, to all kinds of stock.

The last winter, being the third of my experimenting, I not only ground with the cob, but also cooked with Hedges, Free & Co.'s Agricultural Steamer, about 1000 bushels of ears of corn, which I fed to oxen, horses, sheep, fatting hogs, milch cows, and six head of fatting cattle The result fully satisfied me that one-half the corn fed in this way would put more flesh upon horned cattle, hogs or horses, than the whole would fed in the ear. The facts and figures concerning the beef cattle, I will give as follows :

Five two year old steers and one cow ten years old, worth not to exceed, on the 1st of December, $25 per head. During the month of December they were fed in the field with corn stalks ; on the 1st of January they were driven to the yard and lay to stacks of wheat and clover straw—during the month of January they were fed once a day in the field with corn stalks. This embraces the whole of their feeding and care through the winter, excepting their mush, which was fed to them regularly from the first of January to the 1st of May, as follows: Each trough being filled at night, and also in the morning, with a half pail full of mush—after eating of which they could retire at their leisure to the yard. In order to come at the footing, I weighed one hundred pounds of the meal when dry, which made fourteen pails of mush. The corn fed was mostly soft corn, and badly moulded, as the most of the corn was in this section last season, and was not worth more than half price. The footing up then, is as follows: Seven pounds of corn and cob meal per head, per day, for one hundred and twenty days, eight hundred and forty pounds ; at seventy pounds per bushel, twelve bushels of soft corn, at twenty-five cents per bushel, $3.00; corn stalks and straw, say $3.00 ; cost of produce per head, $6.00.

The cattle were sold about the 1st of May, to John Mallery, for the New York market, at $3.62½ per hundred, live weight, and their average weight was one thousand one hundred and ninety-four and one-sixth pounds—bringing me in cash, per head, $43.28 In my case it would be more just to give my cattle a handsome credit for converting my straw into manure, than to charge them with it.

Some may suppose that the trouble of grinding and cooking might still use up the margin. The facts are as follows: I used to set a boy eleven years old at grinding in the morning with two horses, and with what assistance I could render him while attending my steamer, he would have fifty bushels (my usual weekly allowance,) ground by noon—and during the same time I would have half of the same cooked, reserving the balance for another cooking.

I think the trouble and expense of feeding cattle in this way, is much less than stabling them on hay; at the same time you fatten your cattle, instead of their losing from one-fourth to one-half of the previous summer's growth, as they usually do with the best of care, on hay.

It is a fact worthy of note, that sufficient money is lost by the stock-growers of Ohio, in allowing their cattle to fall away in winter, to pay all their taxes, and support all their schools and churches of every grade and denomination.

Every farmer should make his market stock grow every day, from the time it comes into the world until it goes to market, and in so doing will save at least one year's time, and one-third of the feed in growing a steer to weigh twelve hundred pounds, or in raising a calf to be worth $100. I know of no way this can be done so nicely as by raising more corn, grinding and cooking the same with the cob, which makes perfectly safe feed for any kind of stock, in sufficient quantity to secure the desired result—having fed over three thousand bushels of ground corn and cobs in the last three years, to all kinds of stock, and not having a single creature of any kind ailing in the least, while feeding the same, I am fully satisfied there does not exist in the vegetable world more wholesome food for stock than corn and cob meal. The virtue of the cob, I believe, consists more in its medicinal properties than in the trifling amount of nutriment it contains. Another fact intimately connected with the subject of stock-feeding, is this : That the Reserve is not a good grazing country, or a good grain country exclusively, but a most excellent country for both combined. My theory for successful farming is to plow deep, seed to large clover often and freely, raise all the grain possible, feed all fodder and coarse grain upon the farm, keep sufficient stock to convert offal into manure, and return it to the soil as speedily as possible. Land treated thus will increase in fertility and remunerate its owner,—SAMUEL HALE, Mallet Creek, Medina Co., Ohio.—*Ohio Farmer.*

PREPARATION AND TREATMENT OF TOBACCO PLANT BEDS.

Messrs. Editors :—In the *Farmer* of November 20th, there is a communication on Tobacco Beds, by "B," of Amelia county—some of the positions of which I can by no means assent to— being directly opposite to my experience. His experience is, "that as a general thing it is not safe to top-dress with stable manure." My experience is that it is not only safe, but highly advantageous; and this opinion of mine is corroborated by the experience of some of the best tobacco makers around me—and hence I will state how and when I apply the stable manure.

Early in the winter I take out of my stable some manure that is free of trash, and put it on a plank floor where it can get *thoroughly dry ;* when it gets so, it is then forced through a guano sieve,

very little rubbing being necessary. I will here state that I never cover my beds with any kind of brush, but before the plants appear, I give the beds a good coating of this *dry, fine manure;* this operation is repeated in a few days after the plants make their appearance, and then once or twice afterwards; never passing over any spot, however bare of plants; as experience and observation have taught me that the coating of manure will, in most cases, cause the seed to germinate where they had not done so before. Where the manure is *dry and fine*, you may cover the plants up entirely, without the least risk of injury.

I find that *dry, fine stable manure* weighs eleven pounds per bushel; and I have, the last spring, applied as much as four bushels to one hundred square yards—which would be forty-four pounds to that space. One bushel (eleven pounds) at a time, gives a very good dressing; but I have applied at one operation as much as one bushel and three quarters; that would cover the plants entirely up, if they were small.

If the fly attacks my plants, I apply a very thick coating of this *dry, fine stable manure;* for my opinion is, that if any thing will drive them away, this thick coating of manure will. Let the manure be *dry and fine*, and then watch the beds closely; a plant bed needs *nursing;* if the farmer does not do this himself, there must be a trusty person to do so in his stead. Do not give it up to Tom, Dick and Harry. I am not opposed to top-dressing with guano, but do so after the plants get to a tolerable size—for instance, in the last two or three weeks before planting.

As yet I have said nothing respecting my mode of preparing plant beds; and as it differs very widely from the plan in common use, I will here state what it is. If I take a piece of fresh ground, (I prefer standing beds,) I apply axes and grubbing hoes, until all roots are taken out. I then apply the new-ground coulter, working it as deep as I can; and after getting off what roots had been left, I cross-coulter; this time forcing it up to the beam. I then hoe it as fine as I can with grubbing hoes, and next with broad hoes until I get it to a fine tilth, after every operation, getting off as closely as possible all roots; then rake it over, getting it quite smooth.

The bed is now ready for the guano. I apply it at the rates of about four hundred pounds to the acre; hoe it in deep with broad hoes, and then rake over nicely. I next cut with the grubbing hoe small trenches, running across the bed, and some ten feet apart, and nearer than this if the ground is any way sobby; then sow the seed and pat the ground with the foot. No matter how many of these small trenches there are, no ground is lost; for they are made before the seed are sown, and of course the sides and bottom have as many seed sown over them as any other equal space of ground.

My preparation of standing beds is nearly the same as above. I *coulter very deep*, and use grubbing hoes and broad hoes until a fine tilth is obtained; *deep and thorough working* is needed.—About the first of August I cut off close every thing that is on the bed, and cover it over to the depth of five or six inches with leaves, which are removed a few days before burning. About three years ago there appeared in the *Farmer* a communication on plant beds, from which I drew some valuable lessons, worth far more to me than the subscription price of your paper during my life time; and hence I have thought that as I was greatly benefitted by a brother farmer, it was my duty to try to benefit some other one. S.

Louisa Co., Va., Dec. 1st, 1858.

[*Southern Farmer.*]

CARE OF HORSES.

We may not hope to remove existing evils, simply by calling attention to them, but we can point them out, and leave the work of reform to whom it belongs. Let us confine ourselves, in this brief article, to some of the more prominent features in the care of horses.

Assuming that an animal which has good treatment, will be sound and healthy, while one that does not receive this care will be diseased, we are led to believe that to promote the health and comfort, and to secure the kind treatment of animals under his charge, should be the constant aim of the breeder. It does not necessarily injure a horse to work, or to trot fast, provided he receives good care after performing the labor.—The practice is an inhuman one, of driving a horse fast, and then putting him in the stable without a good brushing; or letting him stand where the cold wind or night air comes upon him, without throwing a blanket over him as a protection. This is a simple matter, yet any one who neglects it, has no feeling for the health or comfort of his horse.

Feeding is an item of great importance in the care of horses; but, as every breeder has satisfied himself in regard to the best and most proper method, it will be unnecessary to treat of it at length. Be sure to avoid musty feed of whatever kind, whether hay, straw, corn, or grain.—It is dear at any price, and should never be fed to a horse. Give only good, sweet hay; and clean grain. It is an excellent plan to cut hay, and mix it with Indian meal or middlings. Salt the feed once a day, and as often as once a week throw in a small handful of wood ashes. Pure water should be provided with regularity. If this course is uniformly pursued, horses will seldom be troubled with any disease, but will be healthy and sound. If those who now feed dry hay without cutting, will try the plan given above, my word for it, it will not only be found cheaper, but your horses will look fifty per cent. better.

Horses should have plenty of room in a stable, and not be too much deprived of the liberty of motion. Close confinement after hard work, is apt to abate their circulation too suddenly, make them chilly, and stiffen their joints. When horses are kept in stables, as they always are the coldest half, if not the whole of the year, the curry-comb and brush should be used faithfully every day. This treatment, will not only make them look better, but they will be more healthy, and have more courage and activity. It is a bad practice to omit this operation; more especially is it necessary after a hard day's work, when they begin to grow cold from being sweated by labor. Then it should *never* be omitted.

In warm weather, it would be better for the health of the horse if he were allowed his liberty, to roam at pleasure in the pastures, provided a shelter is afforded as a protection, both from the intense heat of the sun, and the damp, chilly atmosphere of night; as well as from cold winds and pelting storms. Horses that are worked ev-

ery day in summer, should be kept on green fodder in the stable, in preference to grazing in pastures. It is no great burden to tend them; and a large quantity of manure will be saved.

Is there any good breeder who fails to perform these simple acts of kindness to his horse, contributing as they do in so large a degree to promote his health and comfort? Cannot our horses be kept in better order; receive more attention and greater kindness the coming winter, than they have previously? Is not the merciful man "merciful to his beast?" S. L. B.

Brookdale farm, Maine.

[*Stock Journal.*]

NEW ADVERTISEMENTS.

Bibb & Co.—Stoves, Agricultural Boilers, &c.

Dingee, W. W.—Washing Machines, Grain Fans, and other Agricultural machines; also, Farm Wagons.

Dunnington, W. A.—Fine Ground Plaster.

Glenn, W. C.—Glendale farm, 500 acres, near Elkton, Md., for sale.

Griffing, Brother & Co.—Coria.

Grupy, F. H.—Hides, Oil, Leather, &c.

Johnson, Ross—Patent Sash Balance.

McHenry, J. H.—Person to attend dairy wanted.

McHenry, J. H.—Five Pair of Suffolk Pigs.

Mabry, Jas. A.—Wheat farm for sale in Tenn.

Pennock, S. & M. & Co.—Agricultural Implements and Westinghouse & Co's combined Threshers and Cleaners.

Reese, John S. & Co.—Manipulated or Phospho-Peruvian Guano.

Robinson, W.—His own Manipulated Guano.

Sands & Dougherty—Seeds, Guanos, Field Peas, &c.

Sinclair, R. Jr. & Co.—Corn Shellers, Corn and Cob Crushers.

Spear, O. & Co.—Phosphatic Fertilizer, (Tasker & Clark's.

Thorburn, J. M. & Co.—Seeds of Evergreens and of Fruit Trees.

Thorburn, J. M. & Co.—Garden and other seeds at wholesale.

Turner, Edward & Co.—Lumber of all kinds.

BALTIMORE MARKETS, Dec. 29th.

Flour.—There has been little change in the Flour Market since our last. We quote Howard street Superfine, $5.00; Ohio do., $5.00; Howard street Extra, $6.00; Ohio Extra, $5.50; Baltimore ground Family Flour, $7.50; Extra, $6.50.

Wheat.—The Grain Market shows little improvement during the past month. We quote Red at $1.15 to $1.25, for good to prime reds, 1.25 for ordinary white, 1.40 to 1.47 for good to prime.

Corn.—We quote Corn, White, 65 to 67 cts., Yellow, 68 to 72.

Oats.—We quote Oats 42 to 47.

Rye.—Maryland 70 to 75 cts.; Pa. 84 to 86.

Tobacco.—Tobacco continues in active demand; prices are firm. We quote inferior to good Maryland $4 to $6.75; Superior, $8 25 to $10.75. Bay Tobacco we quote, Tips $4 50 to $5.50; Seconds $5.50 to $7.00; Spangled $7.00 to $12.00; Fine Yellow, $12.00 to $16.00. Ohio Tobacco; common Green, $5 50; common Spangled, $6.50; common to middling Red Spangled, $6 50 to $7.50; good to fine red and yellow Spangled, $8 to $10; good to fine Yellow, $11 to $15.00; Kentucky $6.00 to 6.25 for Lugs; $7.50 to $8.50 for medium leaf, and $9.00 to $12 00 for wrappers.

Cotton.—11 to 12¼ cts., six months.

Plaster.—$2.75 to $3.00 per ton, prime.

Seeds.—Prime Clover seed, $5.75; $5.87½ for new; Timothy Seed, $2 00 to $2.25; Flax Seed, $1.38 to 1.40.

Wool.—Unwashed, 20 to 24 cts.. tub washed 31 to 35; No. 1 pulled, 26 to 29; Merino pulled, 28 to 32; common Fleece washed, 30 to 35; quarter to half blood, 35to 39; half to three-quarters, 35 to 39; three-quarter to full blood, 37 to 40; Extra, 42 to 47; (all washed.)

Cattle, Sheep and Hogs.—Supply of Beef large.—Price ranges from $3.00 to 5.00 averaging $4.87½ on the hoof, equal to $7.00, nett. Hogs, $6.75 to $7.25 per hundred pounds, nett. Sheep, $2 to 3.50 per head for ordinary; $4.50 to $5 for extra.

Guano.—Peruvian Guano in small lots is selling at $62.50 to $63 per ton of 2,240 lbs.; California or Elide Guano, $38 per ton of 2,000, $40 per ton of 2,240 lbs., in lots of 50 tons and upwards; Mexican AA, $23 to 25, and A at $18 to 20 per ton of 2240; White Mexican A at $30 per ton; Navassa Brown Colombian, at $25, and El Roque, at $34. De Burg's Superphosphates, $45 per ton of 2,000 lbs.; Whitelock's Superphosphates, at $40, and Rhodes' $45 per ton of 2000 lbs. Reese's Manipulated and Kettlewell's Manipulated Guano, $47. Ground Bones, coarse, $25, fine, $27, per ton of 2000 lbs. or 68 cts the bushel.

A RAPID FLIGHT.—A German paper says the quickest rate of locomotion, after the electric spark, light, sound and cannon balls, is ascertained to be the flight of the swallow. One of these birds, liberated at Ghent, made its way to its nest at Antwerp in 11¼ minutes, going at the rate of 4¼ miles per minute.

CONTENTS OF THE JANUARY NO.

Work for the Month, 203
Floriculture, 204
Drainage—Improving the Soil, 205
Reflections on Vegetable Physiology, 206
Appeal to the Friends of Agriculture, 208
"The *Marion*" and the Marion "*Port*" Grapes 209
Nails in Peach Trees, 209
The Thorough-bred Stallion "*Consternation*," 210
Block Tin Water Pipes, 210
Recipe for Curing Hams 210
Another Recipe for curing Hams, 211
Large Potatoes, 211
Prices of Stock—Plantation Mills, 211
Cider—to improve and preserve, 211
Sulphite of Lime and Cider, 212
Recent Progress of Scientific Agriculture, 213
Annual yield of Nitrogen per acre in different crops, 215
Proceedings of the Executive Committee of Md. Ag. Society, 216
Hints about Breeding, 217
Patent Office Agricultural Report, 218
Shall we grow more Tobacco? 219
Shall we get Seed Wh't North or South of us? 219
The Cost of High Farming, 220
Giving Proper Credits, 221
Notes of Travel in "The *Old Dominion*," 222
Nursery Catalogues Received, 226
Acknowledgments, 227
Our Museum—Models Received, 228
Map of Talbot Co., Md., 228
Langstroth's Bee Hive, 229
Land Sales, 229
Stock Feeding in Winter, 231
Preparation and Treatment of Tobacco plant Beds, 232
Care of Horses, 233
New Advertisements. 234
Baltimore Markets, 234

THE SOIL THE FARMER'S CAPITAL.

The soil is the farmer's capital—to make it pay him good profits, his business. His means are invested in land, and from its generous bosom he must draw support for himself and family—house, food, clothing, fuel, books, papers, education for his children—all the necessaries of life, without which man cannot live, and all those luxuries without which life is hardly worth the having. The President in the White House, our ministers at foreign courts, the American loungers in Paris or Rome, the missionary on the burning sands of Africa, the merchant in his counting-room, and the mechanic at his bench, all derive sustenance from American soil. Truly do the Scriptures say, "The profit of the earth is for all; the king himself is served by the field." This fact no political economist can deny, no sophism can conceal. To keep his capital from depreciation, and in such a condition that it may be able to honour his many and necessary drafts, so as to be in no danger of a panic, and that no suspension may become necessary, is the great business of the farmer. It is, then, of the greatest importance that we should know the *character* of the soil which a kind Providence has provided for our sustenance, and the best method of securing this desirable result.

We need not tell American farmers that our soil differs in character, that we have *clayey*, *loamy*, and *sandy* soils—nor that these different soils require a different treatment, and are suited to different crops. And yet we often think those important matters are forgotten; for how few, who send us reports of their crops, of their success, or their failures, give even a hint as to the nature of the soil in which the crops were grown, or the experiments tried! Then there is much need of information as to the best manner of cropping and manuring the different varieties of soil. We know of land in this section, that ten or fifteen years ago was considered so entirely unsuited to agricultural purposes that it was thought no sane man would buy it for farming purposes. Starvation or retreat was supposed to be the sure fate of any one bold enough to try the experiment. These lands are now the most productive and valuable of any in this part of the State. This change has been brought about by skillful culture and a wise adaptation of crops to the soil.

Every farmer should possess a general knowledge of the formation, composition, character, and classification of soil, and on these points we shall endeavor to make the whole subject so plain that it will be understood and remembered by all.

CHARACTER AND FORMATION OF SOILS.

Soils are those portions of the earth's surface which contain a mixture of mineral, animal, and vegetable substances in such proportions as to adapt them to the support of vegetation. We quote from a valuable article in *Morton's Encyclopedia*:

"On examining the various soils in this or any other country, they will be found to consist generally, 1. Of larger or smaller stones, sand or gravel. 2. Of a more friable, lighter mass, crumbling to powder when squeezed between the fingers, and rendering water muddy. 3. Of vegetable and animal remains (organic matter.)

"On further examination of the several portions obtained by means of washings, we find,

"1. That the sand, gravel, and fragments of stones vary according to the nature of the rocks from which they are derived. Quartz-sand in one case, will be observed as the predominating constituent; in another, this portion of the rock consists principally of a calcareous sand; and in a third, a simple inspection will enable us to recognize fragments of granite, feldspar, mica, and other minerals.

"2. In the impalpable powder, the chemist will readily distinguish principally fine clay, free silica, free alumina, more or less oxyde of iron, lime, magnesia, potash, soda, traces of oxyde of manganese and phosphoric, sulphuric, and carbonic acids, with more or less organic matter.

"3. The watery solution of the soil, evaporated to dryness, leaves behind an inconsiderable residue, generally coloured brown by organic matters which may be driven off by heat. In the combustible or organic portion of this residue, the presence of ammonia, of humic, ulmic crenic, and apocrenic acids (substances known under the more familiar name of soluble humus,) and frequently traces of nitric acid, will be readily detected. In the incombustible portion, potash, soda, lime, magnesia, phosphoric, sulphuric, and silicic acid, chlorine, and occasionally oxyde of iron and manganese, are present."

All cultivated soils present a great similarity in composition, all containing the above chemical constituents; and yet, notwithstanding this similarity of composition, we observe a great diversity in their character. This is caused by the different proportions in which the constituents are mixed together, the state of combination in which they occur, and the manner in which the different soils are formed. All arable soils contain organic matter, varying from half to twelve per cent.—Good garden mould frequently contains from twenty to twenty-four per cent. of its own weight, and in peaty bogs from sixty to seventy per cent. is not uncommon. It was once thought that the richness of a soil was plainly indicated by the proportion of organic matter it contained; but careful analyses of seven specimens of the best wheat soils of Scotland, and yielding about alike, being made, they were found to range from three to ten per cent. The poorest peaty bogs, also contain the greatest amount of organic matter, while they are notoriously unproductive.

The organic matter in the soil is due, for the greater part, to the vegetable remains of former crops. The prairie soils are rich in organic matter derived from the annual decay of the grass for centuries. The soil of the forests is enriched by the fallen leaves.

The manner in which soils are formed cannot be doubted by any one who has observed the appearance of large rocky masses, the bare surface of their smoother and harder parts, and the growth of mosses and small plants on the more softened portions. The soil in valleys surrounded by rocky mountains shows very evidently that they originated in the disintegration and decomposition of the solid rocks in their neighborhood. One of the principle agencies in effecting a gradual disintegration of solid rocks is the oxygen of the atmosphere. "Oxygen possesses a great affinity for many mineral substances, and has, consequently, a powerful tendency to form new compounds. Those compounds, or oxydes, being always more voluminous, looser, and less compact, are the primary cause of the bursting of many rocks, particularly of those containing much iron. In the case

of the formation of these oxydes, the whole structure of the rock is broken up, and the whole mass of the rock gradually crumbles down."

Another and powerful agency in the formation of soils is this carbonic acid of the atmosphere carried down by rain. Limestone is easily attacked by rain water, as the carbonic acid which the water contains dissolves the carbonate of lime. "On feldspar, granite, and other minerals consisting of silicate of alumina and an alkaline silicate, carbonic acid and water exercise a highly important action. Under their influence these minerals are decomposed into alkaline silicates, which in their turn give rise to silica and carbonate of potash or soda, and into silicate of alumina, or pure clay."

The lower orders of plants and animals take a very active part in the formation of soil from solid rocks. The seeds of lichens and mosses floating in the air attach themselves to the surfaces of rocks which have become partially decomposed by the action of the air and rain, as before described, and finding here sufficient food, grow, thus keeping the surface of the rock moist for a longer time after rain, and giving the water a better opportunity to exercise its dissolving powers. Insects feed on the moss; and both insects and plants die and decay. A thin layer of more fertile soil is thus formed, which is soon taken possession of by a higher order of plants and animals; which in their turn die, leaving a better estate to the succeeding generation.

Mechanical causes, too, operate upon rocks.—The wind, thawing and freezing, and the principle of gravitation, effect them more or less.—*Rural New Yorker.*

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